



Climate Adaptation and Mitigation Plan



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Introduction

At Eversource, we recognize that climate change is one of the greatest challenges facing the globe and that timely action and innovative solutions are vitally important. The impacts of climate change are already affecting our business, our customers and the communities we serve. We have made great progress developing and implementing measures to strengthen our infrastructure and work with our stakeholders to ensure we are collectively prepared.

We must remain focused on adapting and responding to more frequent and more severe weather events, maintaining our ability to supply critical infrastructure, and delivering essential services to our customers. At the same time, we are in a unique position to help mitigate climate change through aggressive emission reduction measures from our own operations and beyond. In support of our region's goal to realize a low-carbon future, we are proud to serve as a catalyst for clean energy to lower emissions from the electric, space heating and transportation sectors, and to serve a critical role in achieving state climate objectives and working towards an equitable clean energy transition.

We are also leading by example by reducing greenhouse gas (GHG) emissions through our goal to be carbon neutral in our operations by 2030 and by committing to adopt aggressive measures that support deep, cross-sector carbon reductions through a [science-based target](#). Additionally, we are providing solutions for our customers that help mitigate the impacts of climate change by reducing energy use and by enabling higher penetration of renewable energy and building infrastructure to support heating and transportation electrification.

Assessing Climate-Related Impacts

We continuously evaluate the physical and transitional impacts of climate change. This includes planning for more severe weather events, regulatory and financial risks, and evolving customer behaviors. We also assess climate-related opportunities, such as emission reductions in our operations and the region through our clean energy investments, customer energy efficiency programs, and deployment of emerging technologies. We take measures to prepare for and manage the potential effects of climate change and severe weather, including:

- A comprehensive enterprise risk management process.
- System hardening.
- Distribution automation.
- Resiliency design in flood-prone areas.
- Non-wires alternatives and microgrids.
- Strategic vegetation management to increase reliability and resilience.
- Actions to ensure drinking water quality and availability.

Our employees are committed to ensuring that our comprehensive emergency preparedness and resiliency plans will help keep our communities safe during extreme weather events. We are also focused on the reliability of our system as our customers' energy needs change due to electrification of transportation and buildings and the integration of renewable and distributed energy resources.

We undertake comprehensive climate impact studies that allow us to assess the potential impacts that may occur to our systems. This includes modeling catastrophic events to determine which locations are most likely to be subjected to damage from storms.

This Climate Adaptation and Mitigation Plan (Plan) is focused on five key areas:

1. Providing solutions to bring clean, renewable energy to New England.
2. Reducing GHG emissions through our goal to be carbon neutral in our operations by 2030 and our commitment to action through the Science Based Target Initiative (SBTi).
3. Hardening our systems to withstand the impacts of climate change, and to respond quickly when impacts occur.
4. Engaging stakeholders, providing energy efficient solutions for our customers and communities, and ensuring a just climate future.
5. Ensuring that adequate clean water resources are available for our customers.

This Plan describes our approach to reducing our impact on climate change, enhancing system resiliency, engaging our stakeholders and promoting equity as we adapt to a changing climate. We have adopted commitments both to reduce our greenhouse gas emissions and to enable clean energy projects in the region.

Support of State and Federal Climate Plans

We work closely with the states we serve to support action being taken to reach robust GHG emissions reduction targets. We are engaged and executing strategies in all three states to equitably reduce GHG emissions, adapt to the changing climate, and evaluate possible options for decarbonizing the natural gas system to achieve our joint commitment to reduce GHG emissions. We also participate in industry reviews of state and federal climate laws and our initiatives support both national and international programs addressing climate change.

Reducing Our Impact on Climate Change

Carbon Neutral by 2030 Goal

We have adopted ambitious targets to demonstrate our climate leadership. In 2019 we announced a goal to be carbon neutral by 2030. This goal requires support from all areas of the company to reduce our GHG emissions to as close to zero as possible. For emissions that cannot be avoided, we are preparing to invest in credible offsets. Since our base year of 2018, our GHG footprint has declined by 25% by focusing on reducing emissions in five key operational area: Line Loss, Facilities, Methane, Fleet, and SF₆.

Additional detail on our progress toward achieving neutrality is located in Appendix D.

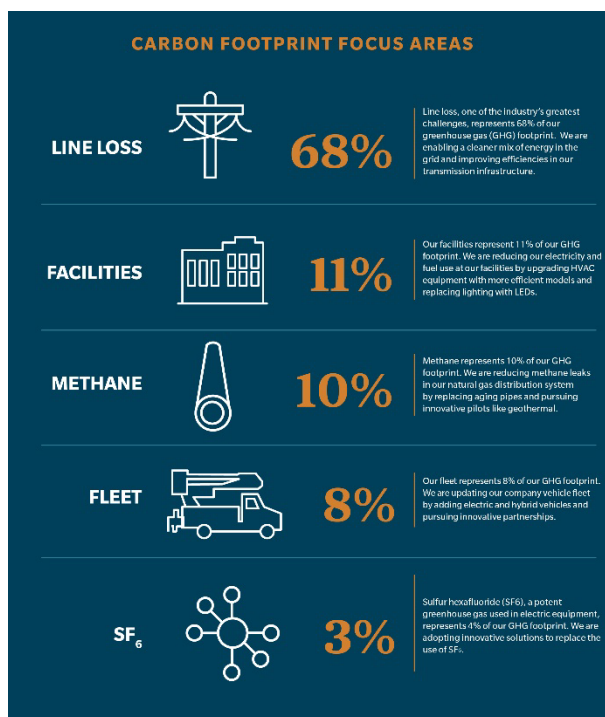
Science-Based Target

Building on our goal to be carbon neutral in our operations by 2030, in 2022, we proudly made a commitment to adopt aggressive measures that support deep, cross-sector carbon reductions through a science-based target. In support of our wide range of ongoing efforts to do our part in addressing climate change, we are establishing this target based on the most current climate science and recommendations for limiting global warming in collaboration with the Science Based Target initiative (SBTi), a partnership of prominent environmental non-governmental organizations (NGOs), to greatly reduce our carbon emissions.

We will work closely with SBTi experts to develop specific, measurable, near-term GHG reduction targets consistent with the SBTi requirements to do so within the required 24 months of making the commitment.

Enabling a Clean Grid

We are continually investing in our infrastructure to deliver reliable energy to our customers and enable the integration of clean energy resources. We proactively plan our transmission and distribution solutions to meet future needs, including making cost-effective system upgrades that improve reliability while also supporting clean energy and electrification goals. Taking an integrated system planning approach allows us to meet load growth and reliability challenges in the ten-year planning horizon, while also supporting electrification and clean energy goals, which enable climate benefits and resilience in the longer term.



Although connecting a large amount of clean energy resources to the grid poses a significant challenge, it is one that we address through comprehensive system planning. To meet the clean energy targets of our states, the region will require:

- Substantial growth in solar generation and offshore wind development.
- Dramatic increases in transportation and building electrification (passenger as well as medium- and heavy-duty EVs and decarbonized heating sources).
- Energy storage solutions to safely and reliably integrate intermittent resources.
- Energy efficiency and demand response to help reduce and shift demand on the grid.
- Comprehensive transmission and distribution infrastructure solutions as a foundational element for meeting reliability and clean energy goals.

A strong, well-connected transmission network delivers power from the point of generation to where it is most needed and can allow for an optimized mix of energy sources — depending on what is most available and economical. Doing so will enable New England to tap energy sources as advantageously as possible.

We continue to bolster the reliability and resiliency of the regional electric system with strategic initiatives. Improvements include upgrading utility poles, wires and other equipment to harden the grid against New England's increasingly unpredictable weather.

Unlocking a clean energy future in New England requires collaboration and open dialogue with all stakeholders involved in our projects. Planning, permitting, siting and building infrastructure is complex. By working transparently with our partners and providing comprehensive outreach to our communities, we are well positioned to modernize the grid to support new clean energy resources in the timeframe needed.

Offshore Wind

One of the most important sources of renewable energy in terms of its scalability for our region is offshore wind. We have been working to develop at least 4,000 MW of offshore wind in the Northeast in partnership with Ørsted, the world's leading developer of offshore wind. During 2022, we underwent a strategic business review of our offshore wind assets, which ultimately resulted in a decision to divest from this area of our business. Nevertheless, we remain supportive of the region's offshore wind development through contracting for power on behalf of our communities and developing innovative transmission solutions to bring offshore wind and other clean energy resources to our customers. We are proud of the significant progress we've made in partnership with Ørsted to deliver clean, renewable offshore wind energy to the Northeast. As we move forward, we continue to look for opportunities to support the region in achieving its ambitious clean energy goals and will continue to play an important role in the transition to a clean energy future. Wind projects under active development in the Northeast include South Fork Wind (New York's first offshore wind farm), Sunrise Wind, and Revolution Wind (Connecticut's first utility scale project), that will all be built within a 257 square-mile lease area off the coast of Massachusetts and Rhode Island. Together, these projects will serve New York, Connecticut and Rhode Island, providing more than 1,760 megawatts (MW) of clean, renewable energy — enough to power more than 1 million homes.

Each of these projects will play a critical role in helping states throughout the region meet their aggressive clean energy goals by reducing harmful emissions by a total of nearly 3 million metric tons annually, the equivalent of taking more than 630,000 cars off the road.

In addition to these projects, many additional offshore wind projects in New England are planning to interconnect to our transmission system. Currently, two projects with a combined nameplate rating of 1,600 MW are proceeding through the Independent System Operators of New England (ISO-NE) Tariff interconnection process to interconnect to our transmission system on Cape Cod. One project has an executed interconnection agreement, and the other is progressing toward a final, executable interconnection agreement. A significant portion of the over 17,000 MW of other offshore wind generators in the ISO-NE interconnection queues are also planning to interconnect to Eversource transmission facilities.

Solar

We currently own and operate 22 solar facilities in Massachusetts, four of which beneficially repurposed closed landfill or formerly contaminated sites. Collectively, these facilities produce 70 MW of generation, enough to power more than 11,000 homes.

Recent legislation has expanded utility solar ownership opportunities for both electric and gas companies and we have a dedicated team overseeing these initiatives. Under this new authorization, we are partnering with the communities we serve to develop, own and operate solar projects paired with energy storage to improve community climate resilience and contribute clean power to the regional electric grid during periods of peak demand.

We also manage solar incentive programs across all our territories, including the Solar Massachusetts Renewable Target (SMART) program in Massachusetts and the Residential and Non-Residential Renewable Energy Solutions programs in Connecticut. These programs are designed to support the development of photovoltaic systems that both lower energy costs for participating customers and support state climate goals. To date, more than 120,000 customers have installed nearly three gigawatts (GW) of customer-sited solar. We also work proactively to support policies in our states that will enable sustained solar market growth through long-term system planning and cost-effective investments.

Eversource is also partnering with the New Hampshire Department of Energy to identify and enroll low-income customers participating in the electric assistance program into community solar projects.

Distributed Generation Interconnection

We continue to support safe and reliable interconnections of both behind-the-meter and standalone distributed generation (DG) resources to our electric distribution system. These dispersed, small-scale energy sources, which include solar PV, small wind turbines, fuel cells, micro turbines, and other forms of DG, support our common vision for an equitable, modern grid that allows bi-directional sources of clean energy to power the grid. More than 131,000 Eversource customers have installed more than three gigawatts (GW) of DG on our electric distribution system, with accompanying infrastructure upgrades to allow this clean energy to flow to where it is needed.

Battery Electric Storage

We are piloting energy storage projects offering benefits consistent with the objectives of grid modernization and climate adaptation. In addition to applications that accommodate the growth of distributed generation and facilitate important policy objectives, energy storage can be deployed as an alternative to traditional distribution solutions under certain circumstances. The potential use of energy

storage — as an asset in a standalone configuration or in combination with solar or other energy sources — may provide opportunities for increased reliability and resiliency in the event of severe weather and grid outages. For example, storage, standalone or co-located with solar, may be able to provide backup power to critical municipal facilities to support greater resilience in the event of power outages. These “microgrid” opportunities are typically location-specific and require technical and economic analyses to prove the feasibility of these solutions.

We have developed a fully operational energy-storage-based microgrid in Provincetown, Massachusetts, that is able to provide backup power to more than 10,000 customers during a grid outage. In addition, we have recently proposed energy storage projects at several locations in Connecticut and Massachusetts to resolve existing and projected reliability and resiliency needs for customers and critical facilities. These projects will provide relief for local system capacity issues and will form microgrids to provide power to local critical and essential service facilities during times of grid outage.

We believe battery storage is a critical part of the future for reliability and the path toward electrification, and we will continue to explore new opportunities to deploy this technology and solution in partnership with the states in which we operate and our customers.

Decarbonizing Heat

Decarbonizing the Heating Sector

Decarbonization of the heating sector is necessary to achieve economy-wide emission reduction targets. We are supporting the transition to decarbonization of the heating sector by maintaining a safe and reliable natural gas system and exploring cleaner technologies, such as networked geothermal, renewable natural gas, and clean hydrogen. We are also collaborating with a diverse group of stakeholders to gather information and evaluate all pathways to clean fuel sources, considering factors such as environmental benefits, reliability, costs to customers, social and environmental justice, and the need to train our workforce to support these new resources.

In addition to electric heat pumps, we believe that clean hydrogen and renewable natural gas may have an important role to play in decarbonizing the heating sector, especially for those commercial and industrial customers that may be difficult to electrify. Research and development of these cleaner fuels continue to advance. We are a part of the larger Northeast Hydrogen Hub which seeks to secure more than \$1 billion in federal funding to promote the development of a clean hydrogen ecosystem.

To deploy these clean energy solutions strategically and effectively, we believe integrated gas and electric planning will be needed for initiating and executing decarbonized solutions for our customers. Much of our service territory for both gas and electric overlaps, and we believe coordinating efforts provides the best options for customers to decarbonize as we undertake current and planned system improvements for both energy sectors.

Geothermal

We are building a utility-scale renewable energy project in Massachusetts using networked geothermal technology to continue the transition towards a clean energy future. This will be the first of its kind for a U.S. utility to undertake. This technology uses the stable temperature of the Earth to efficiently warm buildings in the winter and cool them in the summer through a series of shared piping, boreholes and heat pumps. Compared to traditional heating and cooling systems, geothermal heat pump systems are significantly more efficient and represent a more cost-effective way to provide our customers with a decarbonized solution. Geothermal systems also provide a stable energy supply in all weather conditions and are highly efficient, making them ideal for offering customers decarbonized systems that also mitigate impacts on the electric grid.

Investing in System Resiliency

System resiliency can be defined as the ability of the electric grid to reduce the magnitude and/or duration of high-impact, low-probability events, such as climate change-related extreme weather events. We are focused on strengthening our transmission and distribution systems and infrastructure to adapt to and mitigate these adverse impacts of climate change.

In early 2023, our System Planning team began a climate vulnerability study to quantify the impacts of climate change to our territory. Results of this study will be used to determine which of our electrical assets are vulnerable to each type of weather event, with spatial granularity down to the substation level, and projected out until 2080. Resilience plans will incorporate the results of this study, focused on shifting away from a deterministic approach to risk-based planning. This calculated approach to system planning is necessary to ensure our ability to maintain a safe, reliable and resilient grid in the face of climate change. We have also enhanced our emergency response plans to best support our customers and communities when events occur.

Our efforts are focused on the following resiliency pillars:

Mitigate

- Hardening, strengthening and retrofitting equipment.
- Ensuring backup generation and fuel storage are available.
- Developing system redundancies.

Prepare

- Developing continuity, contingency and strategic plans.
- Training employees and exercising plans.
- Establishing mutual aid agreements.

Respond

- Implementing real-time feeder switching.
- Coordinating energy system assets and emergency response.
- Communicating with stakeholders.
- Deploying mobile incident management and command centers.

Recover

- Prioritizing access to critical equipment.
- Executing agreements with material providers and contractors.
- Critiquing implemented plans to promote continued improvement.

Additional details on resiliency planning efforts follow.

Hardening of Infrastructure/Asset Management

Risks related to climate change include the physical risk from severe storms and increases in sea levels due to increased global temperatures, changes in precipitation, and extreme weather events. We have developed a robust resiliency plan to improve our system's ability to withstand severe weather patterns. This includes installing new and stronger infrastructure (utility poles, wires and related system equipment), usage-based asset replacements, new standards for planning and operations, and targeted vegetation management.

Our long-term substation flood mitigation strategy examines predictive modeling methods and reviews existing 100- and 500-year flood levels from FEMA studies to better assess flooding risk to substation infrastructure. This data is incorporated into future electrical system planning and substation asset strategy and design, including adding enhanced substation elevation margins for sea level rise.

We are also working to better understand potential impacts to our assets from higher ambient temperatures due to climate change. We are reviewing the loading practices and thermal rating criteria for assets like transformers, whose performance is impacted by higher temperatures.

Solutions we use to harden infrastructure include:

- Replacing aging conductors with larger, more advanced equipment as needed.
- Installing steel poles in critical rights-of-way.
- Targeted undergrounding.
- Sectionalizing circuits/zones to reduce the number of customers impacted by an event.
- Deploying additional distribution automation and new technology, such as trip savers.
- Developing inspection and routing maintenance programs for our water company's dams to keep these vital assets safely in service.

Designing Transmission and Distribution Infrastructure for the Future

We are pursuing an integrated and proactive planning approach to design an efficient and reliable transmission and distribution system. As a regulated utility, we have an obligation to provide reliable service in accordance with applicable safety codes and regulatory requirements. At the transmission level, the system is designed in accordance with North American Electric Reliability Corporation (NERC) reliability standards, Northeast Power Coordinating Council (NPCC) regional standards, and ISO-NE planning procedures. At the distribution level, our Distribution System Planning Guide, along with reference procedure SYSPLAN-010 (Bulk Distribution Substation Assessment), establishes the criteria and guidelines for the planning and design of our bulk substation and electric distribution facilities.

To successfully build a modern grid that reliably delivers clean energy, a long-term, proactive planning process is essential. We are conducting yearly analyses to build a 90/10 weather normalized load

assessment based on an econometric model for each of our bulk stations. During the yearly assessment, we evaluate underlying load growth, as well as several “adders” that will impact the overall peak over and above the underlying growth within the 10-year planning horizon. In addition, to understand the long-term impacts of electrification, we are also analyzing applicable state-level net zero carbon goals to assess the longer-term electrification impacts on bulk substations and the region. These long-term electrification impacts ensure that solutions we design today fit into a decarbonized future. To address these impacts, we are developing yearly profiles for planning scenarios that represent system constraints.

We are performing detailed analyses of a range of planning scenarios to understand how to build infrastructure as generation resources, customer demands and decarbonization policy evolve over the next decades. Doing so allows us to implement forward-looking solutions that will cost-effectively improve reliability, ensure resiliency, support the integration of renewable energy sources, and meet projected increases in energy demand from electrification. We are also conducting Affected System Operator (ASO) studies to assess impacts of distributed resources on the bulk grid and the ensuing transmission needs.

We are mindful of the needs and demands of our service territory and — working together with neighboring states and regions — have extensive experience solving location-specific needs with solutions that balance cost, reliability and sustainability. We are also developing tools that will help model future electrification scenarios so transmission can be planned and built as the anticipated increased load materializes. Because proactive planning needs to be comprehensive and remain efficient and agile, collaboration among stakeholders will be essential to achieve clean energy goals.

Transmission infrastructure is designed to withstand a wide variety of severe weather conditions and we proactively replace assets before they become damaged. We deploy drones to inspect infrastructure where access is difficult to safely and quietly identify issues that might otherwise go undetected. We then prioritize replacement of aging wood and steel lattice structures with new steel structures capable of withstanding winds of 120 mph or more.

These upgrades improve the grid’s resiliency and also support higher capacity conductors capable of integrating additional clean energy generation as it comes online. All improvements are completed in alignment with policymakers to develop resiliency solutions that are also cost-effective for our customers.

Projects are developed in a co-optimized manner that considers the condition of each asset, planned integration of offshore wind generation, accommodation of distributed solar generation, and plans for anticipated load growth as transportation and buildings become more electrified. This process promotes efficiency, thus reducing cost.

Emergency Preparedness

Comprehensive emergency preparedness plans guide our actions in keeping our communities safe during extreme weather events that may result in significant power outages and damage to physical infrastructure.

We receive and review weather forecasts multiple times each day from contracted private weather services. Alerts from the National Weather Service’s regional offices (NWS) are received and reviewed when a predicted weather event meets NWS triggering guidelines. Additionally, when a predicted weather event meets thresholds for potentially causing power outages (e.g., high winds), the University of Connecticut (UConn) Eversource Energy Center issues an Outage Prediction Model (OPM) probability report and DTN Weather issues a Storm Impact Analytics (SIA) prediction designed to estimate the total number

of trouble spots and related outage locations, and proactively pre-stage crews to expedite power restorations. The OPM and SIA represent leading-edge approaches in the electric industry because they can provide estimates of a storm's anticipated impact up to three days in advance and are updated each day prior to an event occurrence.

Outage predictions, along with proactive tree and forest management, help to avoid and shorten the duration of customer outages while also enhancing system reliability. The increased frequency of extreme weather also influences our response restoration planning activities. We continue to evolve our analytics and distribution system automation practices to reroute and restore service to our customers as quickly as possible.

In addition to emergency restoration and support work performed by employees, we have contracts in place with external vendors who may be activated during emergency outage events to provide technical staffing resources to support a safe and effective restoration. Some vendor resources are located within our service territory and can respond quickly while others may need more time to respond as a result of location (i.e., Canada or other states further south and west). Line crews, damage assessment crews, wire guards and other support resources are all available to activate when needed.

Vegetation Management

With 90% of outages during storms resulting from falling tree limbs, effective vegetation management plays an important role in protecting our electric system infrastructure from severe weather impacts. In addition to the increased frequency and severity of storms, climate change has also led to irregular periods of drought, compounding the risks trees pose to our electric infrastructure. The primary impact of drought is damage to tree roots, which inhibits water uptake resulting in leaf wilt, branch die back, and ultimately death of the tree. The secondary effect is a weakening of natural defenses, making the trees more vulnerable to insect pests and disease. For example, spongy moth caterpillars feed on the leaves of many trees and shrubs and may completely defoliate a tree. In normal conditions, trees recover by putting out new leaves. With successive years of infestation coupled with a multi-year drought, however, the risk of tree mortality increases. Similarly, the emerald ash borer, a non-native insect that infests ash trees, eventually causes tree mortality in two to three years. Unfortunately, this insect has become prevalent and is expected to decimate the population of ash trees in the region. With these climate-induced impacts on trees continuing to be a threat for the foreseeable future, it is important that we take precautions to help ensure public safety and maintain system reliability.

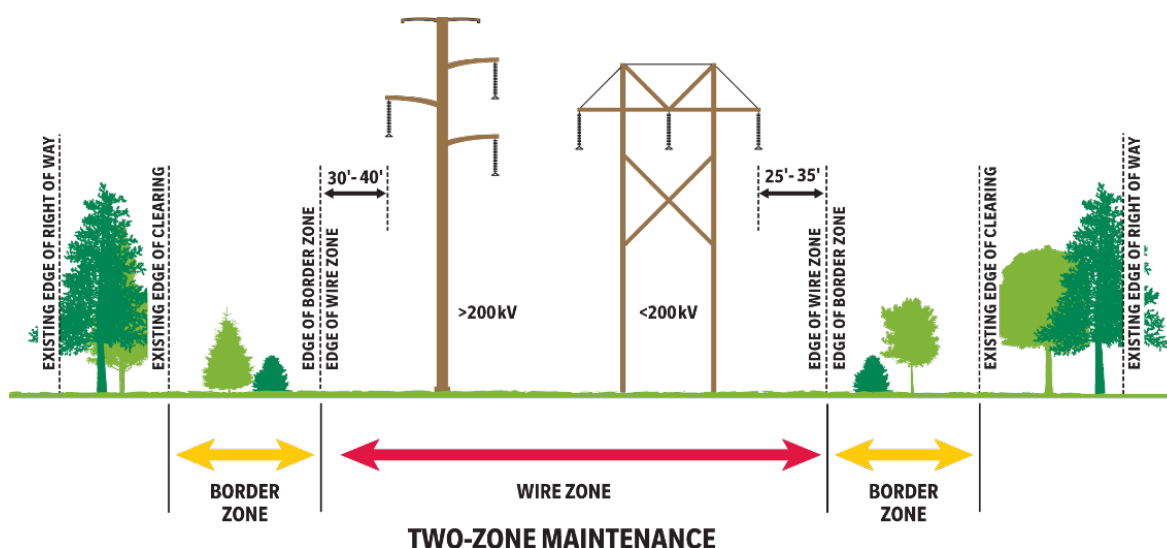
Our routine maintenance cycle is completed every four to five years (depending on location) and incorporates tree trimming and removal of hazard trees threatening the system. We also continuously monitor power lines and equipment and trim locations that cannot wait until the normal cycle. We remove over 80,000 dead and dying trees each year and spend over \$60 million across our service territory removing these hazard trees. The models and methods to target areas for vegetation is a product of the collaboration between our staff and the University of Connecticut.

We maintain cleared areas around transmission lines in our rights of way to ensure a safe distance between high voltage lines and vegetation. In these areas, we focus on creating and maintaining healthy, early successional, low-growing plant communities that support many threatened and endangered species. And when it comes time to maintain vegetation, we individually evaluate each situation using integrated

vegetation management (IVM) techniques to select the most appropriate, environmentally sound and cost-effective solutions.

We also work collaboratively with communities to identify and remove trees at risk of causing power outages and have developed town vegetation management scorecards to show communities the impact that trees are having on their community's reliability. We plan to continue engaging with communities on these initiatives and to petition the various regulatory bodies in all three states to increase funding to allow even more hazard tree removals.

On an ongoing basis, we also engage with tree wardens, municipal leaders, landscape architects and the public to provide resources to select compatible vegetation when planting near power lines. Our educational utility arboretums are located in Berlin, Connecticut, at the University of Massachusetts in Amherst, at the Urban Forestry Center in Portsmouth, New Hampshire, and in Hooksett, New Hampshire, are living examples of the wide variety of trees that can be safely planted near and under utility equipment.



Modernizing The Electrical Grid

Considering Non-Wires Alternatives

We have developed extensive capabilities to screen for a wide variety of non-wires alternatives (NWA) to improve system reliability and capacity while providing the most cost-effective solution for customers. These solutions include, but are not limited to, energy storage (grid scale and customer-owned), solar PV, demand response, voltage optimization schemes, and local generation (such as fuel cells). These options may be considered as viable alternatives to a capacity upgrade once they pass a set of screening criteria, technical feasibility assessments, and benefit-cost analyses. Our current industry leading NWA framework has been shared with regulatory authorities in all jurisdictions where we operate. A stakeholder engagement process is included in our NWA framework to gather input from developers and other third parties to expand our portfolio of options for addressing system needs in a safe, reliable and cost-effective manner. We have also developed an inhouse software tool which allows us to screen every potential

candidate for NWAs against every technology, and combination of technologies, to ensure we make the right decision, every time.

Technology Innovations

As a catalyst for clean energy initiatives, we support important public policy goals that provide the impetus to modernize the electric grid, including goals to promote energy efficiency, clean transportation, energy-storage deployment, and clean energy resources. We continue to implement innovative technologies to further improve service to customers and lessen or mitigate the impact of outages.

Our distribution grid priorities are focused on:

- Creating opportunities for active engagement with customers and stakeholders through the clean energy transition.
- Enabling the levels of penetration of DER required to support meaningful gains in clean energy objectives.
- Allowing for flexibility in timing and approach as technologies and policies evolve.
- Optimizing the use of assets to create value and minimize costs for all customers.
- Supporting fair and equitable allocation of costs and benefits of modernization.
- Complementing our mission to improve customer satisfaction, employee engagement, community partnerships and clean energy leadership.

Although specific investments in the next 10 years will be shaped by advances in technology and prevailing system conditions, we are focused on building a flexible foundation to maximize customer benefits over both the near- and long-term. We also continue to assess and address these trends that will shape opportunities for grid modernization over a 10-year horizon:

- Rapid advances in technology.
- Support for clean energy objectives.
- Threats to the electric power system requiring extreme diligence in physical and cyber security.
- Increased proliferation of distributed clean energy resources.
- Growing complexity of real-time distribution operations.
- Planning uncertainties associated with EV penetration, heating electrification, and dispatchable DER.
- The need to optimize the value of DER to lower costs and reduce carbon emissions.
- Demand for additional high-speed communication infrastructure.
- Challenges associated with aging infrastructure.

Advanced technology that allows for improved monitoring and control makes it feasible to optimize system operations in real time across varying system conditions. Managing voltage and reactive power flow is becoming increasingly important due to the following challenges and opportunities:

1. Ensuring that distribution voltages remain within prescribed ranges and are not fluctuating rapidly as additional DER (characterized by intermittent output) is added to the system.
2. Identifying opportunities for conservative voltage reduction (CVR) to reduce peak demand and energy consumption.
3. Improving system efficiency and reducing line losses through optimized reactive power dispatch to reduce greenhouse gas emissions.

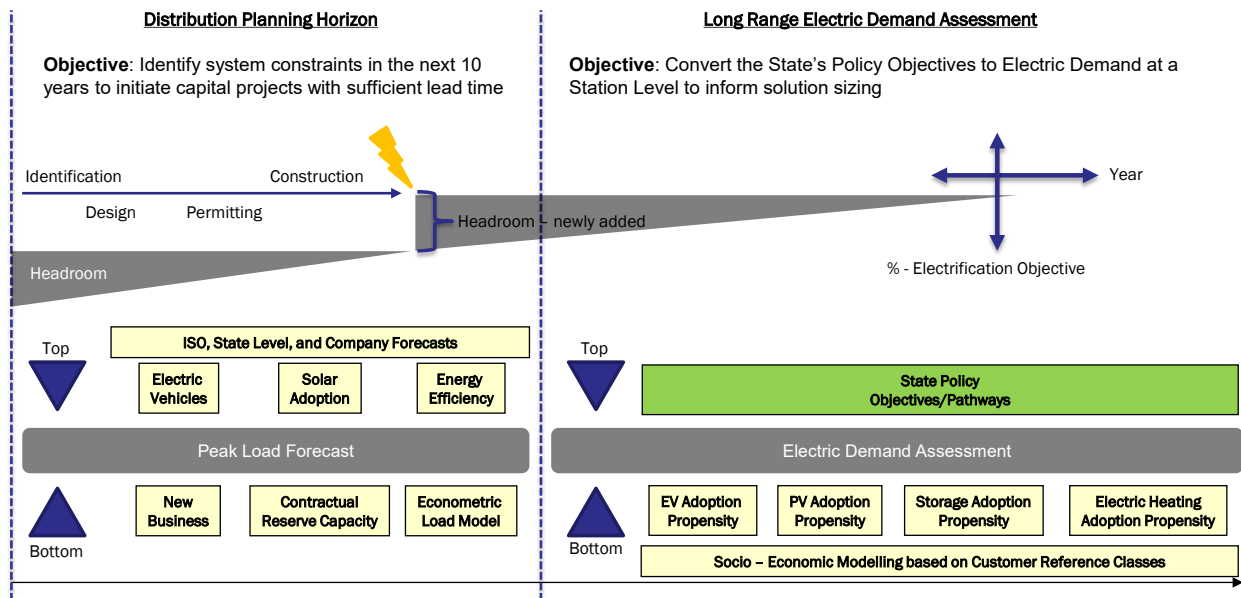
4. Alleviating the voltage and power quality concerns that may otherwise limit the interconnection of new, renewable energy resources through active voltage management and mitigation.

We will continue to seek approval to expand investment in this technology to optimize system efficiency and power quality throughout our service territory.

Factoring Climate Conditions and Electrification into Load Forecasting

Peak demand forecasts predict the maximum amount of power customers will need. As we experience more extreme temperatures, customers' energy demands are already increasing. This, combined with national and regional policies promoting electrification, will increase peak loads even further, which has led us to proactively invest in advanced load forecasting and modeling capabilities. We now create two data sets when planning our system, a 10-year forecast which is used to prioritize projects to where they are needed the most, and a long-term electric demand assessment which informs the solutions designed today for the 10-year need to ensure they fit into the 2050 decarbonization objectives. To understand how our system behaves, we develop annual time series load models for each bulk station across our footprint under different weather conditions and load scenarios.

The scenario forecasting approach being implemented will review the solar adoption rate for behind-the-



meter assets using economic modeling and rooftop solar analysis, parcel analytics for adoption rates of ground-mounted solar assets, adoption rates for EVs, GPS data-based driving pattern analytics for charging demand forecasting, sector conversion adoption, and storage adoption rates.

The resulting long-range scenarios will also include changes in load due to expected climate change, such as prolonged heat waves or severe winter conditions (e.g., polar vortex conditions) which are expected to drive winter peak load past our current summer peaks as early as 2040.

Delivering Clean Water

Our water business, Aquarion, faces wide-ranging climate impacts, from damaging storms to algae blooms, and changing precipitation patterns that affect water quality and supply availability. We are working in various areas to forecast risk, improve resilience and mitigate our impact on the natural environment.

Severe Weather

Like the rest of New England, our water business has already begun to experience more frequent and more severe storm events that interrupt power for hours or even days at a time. Across our water infrastructure landscape, the provision of permanent standby power at critical facilities is the norm, and portable generators are available to be staged where needed in advance of severe weather events. This critical safeguard helps ensure uninterrupted supply of potable water for drinking, hygiene and fire protection throughout the duration of power outages. We have renewed efforts to identify and remove hazard trees that have a potential to damage infrastructure or hinder access to our facilities.

Our dam infrastructure is a vital asset to our water business and at risk from an increase in the severity of flooding rain events. Our dam Emergency Action Plans are exercised jointly with community emergency responders to assure the safety of our downstream communities. We implement best practices for the routine maintenance and inspection of our dams and invest significant capital into our dams to assure the resilience of these assets in our changing climate.

Severe storms and flooding events can damage infrastructure and degrade water quality. While our groundwater sources meet current standards designed to mitigate flood damage, our planning efforts include assessing flooding risks through the lens of a changing climate. We are establishing design standards to protect groundwater sources and harden facilities in low-lying areas; assessing risks to water mains at stream crossings as well as those in coastal areas; and anticipating increasing treatment expense associated with changes in water quality. In addition, our watershed forests are an important line of defense in the face of climate change. Through implementation of our forest management plans, we are working to maximize both forest resilience and the ecosystem services provided by the watersheds surrounding our reservoirs, which supply roughly 80% of our overall drinking water production.

Warming Temperatures and Water Resources

The forecast warming of the region will impact every facet of water resource planning. Increased surface water temperatures will make our reservoirs more susceptible to harmful algal blooms and affect treatment processes. Changing precipitation patterns, dryer soils and higher temperatures will adversely affect seasonal streamflow, reservoir levels, and groundwater recharge. In a context of increasing treatment costs and water scarcity, the need for public water supply is likely to increase. We must be prepared to address an increasing demand for water during heat waves and to connect our drinking water systems with neighboring utilities or individuals in the face of drought.

Aquarion's water supply planning process assesses adequacy of water supply by comparing available water to long-term demand projections for multiple use scenarios. For systems that fail to meet the required safety factor, capital planning begins to assess alternatives such as developing new sources, improving

capacity and interconnecting systems in order to improve water availability. In addition to providing supply solutions, we are working to reduce water loss by increasing our water main replacement rate and reducing our leakage (also known as non-revenue water). Demand management extends to our conservation programs, including programs in Connecticut and Massachusetts. In Connecticut, we have identified communities with excessive seasonal water use and implemented twice-weekly irrigation schedules in these towns. We plan to expand the irrigation schedule throughout most of our service area and are working toward implementation of an inclining block rate structure in Connecticut.

Aquarion uses reservoir models to forecast available water supply and the probability of entering successive drought stages for its systems served by surface water supplies. This important tool allows us to proactively communicate with regulators, customers and towns and more importantly, it allows for more-timely implementation of our drought response plans, when water use restrictions have the most benefit.

Engaging Our Stakeholders

Our Communities

Community Outreach

We are committed to proactive engagement with our communities on an ongoing basis to keep them informed, learn about their needs, share valuable information about services available to them, and address concerns.

During the planning and implementation of projects, we meet with municipal officials, engage residents, businesses, community groups and neighbors to gain their insights and share updates on key milestones throughout the duration of our work. Our efforts include municipal briefings, direct mailings, on-site and virtual meetings, open house events, door-to-door outreach, as well as participation in community events and sponsorships.

Equity and Environmental Justice

We are committed to recognizing the historical inequities and ongoing disparities of environmental justice populations. We value the importance of fair treatment and meaningful engagement of all people regardless of race, color, national origin, English language proficiency or income, with respect to our business and the energy and water systems we operate.

To demonstrate our commitment and focus on equity and environmental justice as core to our business, our Vice President of Corporate Citizenship and Equity leads a Pro-Equity Advisory Team dedicated to operationalizing our equity commitment across key business areas, including understanding where community impacts and disparities intersect with necessary work to maintain a reliable energy system. This focus on equity and environmental justice will benefit all customers — and especially those in underserved communities.

We are committed to early and sustained communication with community members by conducting open houses to inform and elicit feedback. Recognizing that English may not be the primary language spoken, we

make every effort to translate communications into the languages that are widely spoken in our communities.

We are increasing engagement in communities that have historically shown low participation in our energy efficiency programs. These include locations with high proportions of renters, low-to-moderate income customers and those identified as distressed communities.

Additionally, we are focused on delivering reliable energy, which is vital to public safety, community health and the economic welfare of our customers. This results in system enhancements and repairs that have the potential to further benefit environmental justice communities. Our goal is to avoid and mitigate impacts whenever possible. We maintain that these complementary goals — reliability and justice — can be accomplished simultaneously with benefits for all.

Project planning to enhance the resilience and reliability of the electric grid takes into consideration the locations of vulnerable communities, including distressed municipalities and environmental justice communities, by consulting federal and state data reviews like the CEJST (<https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5>).

Our Corporate Statement to Lead Equity in Our Communities

We are committed to:

- Recognizing and understanding historical inequities and ongoing disparities, particularly for those communities that are predominantly Black, Indigenous and People of Color (BIPOC), environmentally burdened and economically challenged.
- Rectifying inequities to govern our work in and through the various ways we engage with our stakeholders.
- Improving our operational and corporate processes, systems and practices to better understand and serve the needs and unique circumstances of our employees, customers and communities.
- Ensuring our stakeholders feel respected and that our work supports their dignity.

Together, we will work through systemic biases and challenges.

Eversource Diversity, Equity and Inclusion Plan

We are focused on and working to accelerate progress on meaningful, positive change in our workplace and our communities.

- Build a More **Diverse, Equitable and Inclusive** Workplace
- Increase **Leadership** Commitment
- Increase **Supplier Diversity**
- Support our **Diverse** Communities

Just Transition

As we build the energy system of the future, we do so with a clear and ever-present commitment to a just and inclusive transition. We are actively exploring solutions to transition from our reliance on fossil fuels, and we know it is critical to do so in a way that protects workers' livelihoods, creates well-paid jobs, and supports communities that have been disproportionately affected by climate change. Consistent with the principle of environmental justice, we are focused on providing communities with a seat at the table for infrastructure planning from day one.

In the just transition, we will provide training and support to our current and future employees so they have the skills they need to be successful in a clean energy future. We are working to ensure that our clean energy investments benefit all of the communities we serve, including those that have been historically marginalized and environmentally overburdened.

Supporting Communities During Storm Response

Throughout the year, our Community Relations team works closely with municipal leaders to train first responders and to identify critical infrastructure, such as hospitals, police and fire stations, 911 dispatch centers, water treatment facilities, and others. These locations may be prioritized for service restoration in the event of an outage.

Our Municipal Hub program improves communication during emergency events through a two-way, web-based communication and reporting tool designed exclusively for municipal officials, Department of Public Works personnel, police and fire chiefs and their dispatching centers at the local and regional level. The Municipal Hub is available 24/7 and can be used to monitor the status of life support customer outages, report critical facility outages and blocked, or partially blocked roads while also providing substantive updates and information on the status of an event, the estimated time of restoration and other critical details. The features and functionality of the Municipal Hub improve access to information about outages and restoration statuses for cities and towns.

The Municipal Hub is used by more than 1,800 municipal officials across more than 500 communities in our tri-state service territory. In 2022, our Community Relations and Emergency Preparedness teams worked in concert to enhance the critical facilities and life support customer lists and leveraged improvements that included more robust emergency 911 reports and event summaries.

Electric Vehicle (EV) Infrastructure

Transportation represents the single largest contribution to our regional GHG footprint. We are working closely with our states and local communities to help reduce the associated emissions within this sector through electrification. We achieve this through investments in advanced forecasting capabilities, which allow our Advanced Forecasting and Modeling team to model EV adoption over the next decades based on a wide array of parameters — from policy objectives to socio-economic impact factors. We have acquired detailed travel data after consultation with the State level Department of Transportation for all three states, which will enable us to extend our understanding of where future EV charging will likely happen, how far vehicles will travel, what their dwell times are, and at what time of day they end their trips, which we will then include in our system planning progress to enable a proactive upgrade of system capacity. By reviewing every capacity investment with this EV adoption and travel data, we ensure that our infrastructure gets

designed in a manner that can take us all the way to a decarbonized future by ensuring the distribution grid continues to enable EV adoption.

We are expanding our role in transportation electrification by continuing to build public charging infrastructure and implementing programs that support residential charging and fleet electrification. In Massachusetts, phase 1 of a 5-year EV plan ended successfully in 2022, and Phase II was approved to begin in 2023. In Connecticut, an expansive 9-year EV program was approved in 2022, and our \$2.1 million “Make Ready” program was approved in New Hampshire — all of which reflect the region’s commitment to partnering with utilities to find solutions for transportation electrification.

In addition to infrastructure programs, we are engaging in other ways with customers, regulators and law makers to support the EV transition, which include specific commercial rates for EV customers, distribution system planning for large fleet customers, and a plan to electrify our own internal fleet. We also support federal and regional initiatives, such as the EPA’s [Electric Sector Pledge to Support School Bus Electrification](#), and the [National Electric Highway Coalition](#) (NEHC), which is committed to providing EV fast charging ports that will allow the public to drive EVs with confidence along major U.S. travel corridors by the end of 2023.

Our Customers

Supporting the Adoption of Cleaner Energy

We are focused on working with our customers to realize a clean energy future through education, incentives, and offering innovative solutions. One key way we do this is through the safe interconnection of renewable generation with our transmission and distribution systems. The number of requests to interconnect distributed generation continues to grow and these assets will result in additional carbon emission reductions as traditionally generated energy is offset by the renewable energy generated. To support development of solar resources, we have partnered with the Cambridge-based startup, Gridtwin, to launch and provide a free of cost tool to search and find the ideal parcels within our territory to develop solar on based on a wide variety of factors, such as distance to infrastructure, zoning and hosting capacity¹.

We also support solar incentive programs across all our territories that are designed to support the development of photovoltaic systems that lower energy costs for participating customers, serve historically disadvantaged populations, and support state climate goals. We operate multiple solar facilities, a battery storage-based microgrid in Massachusetts, are planning for the addition of more battery energy storage facilities in Massachusetts and Connecticut and are collaborating with partners like Ørsted in the offshore wind development field.

As we look to support the decarbonization of the heating sector we are also reviewing solutions including networked geothermal, renewable natural gas and clean hydrogen. More customers are considering heat pumps as an energy-efficient alternative to fossil fuel heating systems, and we are expanding economic incentives and have launched a Heat Pump Installer Network to facilitate high-quality system installations for both residential and commercial customers.

¹ <https://eversource.gridtwin.com/>

Energy Efficiency

Energy efficiency has been instrumental in reducing the rise in emissions from residential and commercial buildings and will continue to play a vital role as decarbonizing energy sources continues to reduce emissions across our states. These programs tend to be the most cost-effective ways to help our customers save money, equitably create access to green technology, reduce GHG emissions and create jobs. We take great pride in helping our communities remain vibrant and successful by designing and delivering solutions that are emulated by others across the country.

As we strive to implement energy efficiency solutions across our region, we understand there may be economic constraints for some customers. In response, we have created program offerings that allow and encourage economically stressed families and businesses to participate and benefit from the long-term savings that follow these improvements. We also partner with our communities to support this important effort by collaborating with trusted local organizations and advocates to educate customers and are working with business partners to pioneer ambitious investments in electrification, with technologies like air- and ground-source heat pumps leading the way.

Demand-response solutions help us manage demand loads, which can reduce construction of new generation plants and lower the use of less-efficient, higher-emissions plants at peak times. These solutions, along with our core efficiency investments, will be a key tool in managing peak load growth within ISO New England moving forward.

Employees

Preparing Our Workforce for Evolving Skillsets

As the utility sector continues to evolve in response to a changing climate, we know we must also ensure our workforce is equipped with the skillset our business will require, while ensuring that no one is left behind as the energy industry transforms away from fossil fuels. Strategic workforce plans are developed annually to identify long-range needs to ensure we acquire, develop and retain diverse, capable talent. We are already exposing our current workforce to the new technologies by leveraging their experiences in our geothermal pilot project and working in partnership with organized labor to ensure the workers of today are trained for the projects of tomorrow.

While the industry faces a major depletion of its workforce with nearly half of existing energy workers move toward retirement, we have adapted how we recruit newly skilled employees. Workforce development and employee development programs are aligned to strategic workforce planning to support succession within all levels of the organization, including pipeline development programs that ensure technical skills and competencies for the evolving energy industry. This includes comprehensive programs to train, educate and develop employees. One such initiative is the Clean Energy Pathway program, which is a three-week paid internship for an energy efficiency workforce, especially targeting individuals from historically underrepresented communities, including LGBTQ+ people, women, people of color and first-generation students residing in environmental justice communities. We also have several established community college partnership programs that feed our craft roles; multiple cohort and rotational programs in engineering, transmission, safety, and other critical areas; and robust internship and apprentice programs.

Expansion of these programs is aligned to the business staffing strategies for the next five years and focuses on developing entry-level associates focused on business, leadership and technical skills.

Within our organization, we develop talent and provide career growth opportunities. Employee development programs are offered to train, educate and develop employees at all levels. Our comprehensive key talent program prepares high-potential employees for senior roles and is aligned to strategic workforce planning to support succession within all levels of the organization. The Eversource GOLD program is a 12-month opportunity targeting employees new to the workforce or utility industry. Additionally, tuition assistance programs, paid internships, co-ops and other pipeline development programs help ensure future workforce technical skills and competencies.

Our offshore wind investment projects are working to ensure that the workforce of the future is diverse and inclusive and are launching new programs to provide pathways for residents of underserved communities to build the regions clean energy future. In 2022, this included a \$300,000 grant to train workers for union construction careers critical to the clean energy transition. We also focus on minority and women-owned businesses as we build out the offshore wind supply chain.

Shareholders

Acknowledging that many of our existing and prospective stakeholders are interested in understanding how Eversource is identifying and managing impacts of climate change, we are committed to providing regular and transparent disclosures. This information is included in our annual financial reports, our sustainability report that is aligned with globally recognized reporting frameworks, our responses to CDP questionnaires and by responding to key sustainability raters.

We provide information to our investors on business risks and opportunities related to climate change that have been identified through our Enterprise Risk Management program. This program routinely assesses climate risk exposures and any associated physical, regulatory and financial implications. We also disclose opportunities to reduce emissions in our operations and for the region through clean energy investments, energy efficiency programs, and the pursuit of emerging technologies.

Eversource Energy Center

We are continuing our partnership with the University of Connecticut (UConn) with an extended commitment to the Eversource Energy Center through 2028, funding research that will help to mitigate and adapt to the impacts of climate change throughout New England. This partnership will:

- Support the operational UConn weather forecasting and damage prediction modeling system for our Connecticut, Massachusetts and New Hampshire service territories, including load-focused modeling.
- Research opportunities and methods to increase the resilience of the electric system through mitigation, preparedness, response and recovery measures through metrics development, contingency planning and standards.
- Support renewable energy integration efforts, focusing on stability and resource adequacy. This research is critical for offshore wind energy research for the Revolution Wind and South Fork wind farms currently under development as a joint venture by Eversource and Ørsted.

- Expand our substation flood early-warning system to substations in Massachusetts and New Hampshire.
- Provide professional education to Eversource engineers through the UConn's Power Grid Modernization Graduate Certificate Program.
- Initiate efforts to protect the energy systems and infrastructure from cyber-physical attacks, including cyberattack prevention and mitigation.
- Engage under-represented minority undergraduate students in all areas of sustainable energy research.

Conclusion

We have made significant progress in our efforts to reduce emissions and ensure a resilient system to support our customers. We will continue to build on these achievements as we identify additional opportunities to mitigate and adapt to climate change impacts.

The work ahead to mitigate our impacts on and adapt to climate change will continue to evolve. As such, this plan will be reviewed and updated as needed. We will also continue to collaborate with stakeholders and policymakers as we do our part to support a transition to a low carbon economy, and as always, remain dedicated to providing safe, reliable and resilient energy for our customers.

For additional information about how Eversource strives to lead our industry in addressing climate change and broader sustainability topics, please visit www.eversource.com/sustainability.

Appendix A: Massachusetts Programs that Support Climate Goals and Adaptation

Support of State Climate Plans

We support programs that pave the way to reach the commonwealth's climate goals through energy efficiency, EV infrastructure and the development of customer- and utility-owned solar, networked geothermal, offshore wind and energy storage. The "Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy," passed in March 2021, adopted short- and long-term emissions limits to decarbonize sectors of the economy. As the region's largest energy provider, we are working with other stakeholders to help shape efforts to ensure these goals are achieved.

Solar

We currently operate 70 MW of solar power facilities in Massachusetts that were completed between 2010 and 2019. Recent Massachusetts legislation permits utilities to expand ownership of solar power facilities, and we plan to construct additional solar generation capacity that supports local climate resilience goals. These large-scale solar facilities will directly contribute to Massachusetts' renewable energy installation goal while mitigating peak demand and reducing energy burdens in environmental justice communities.

The Massachusetts "Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy" authorizes electric and gas distribution companies to construct, own and operate up to 286 MW of solar generation facilities, paired with storage where feasible.² Our plans include developing new solar to help meet the commonwealth's commitment to achieve net zero carbon emissions by 2050. In 2022, we proposed three solar and battery storage projects to the Department of Public Utilities. If approved, these initial projects will involve constructing parking canopy solar generation at three of our area work centers in Brockton, Lawrence and Yarmouth, for a total of 5 MW of additional solar capacity. These projects will increase climate resilience by providing clean backup power to the area work centers, thus reducing reliance on fossil fuel generators and associated air pollution during power outages. During normal operations, when there are no outages, the solar power will be dispatched onto the grid during peak hours. This will provide clean power to the grid during times of peak demand and generate revenues which will benefit environmental justice communities in the municipalities where the projects are located.

We also work closely with the Department of Energy Resources (DOER) to support the implementation of the commonwealth's primary solar incentive initiative, the SMART program. Through this program, we expect 3,200 MW of new solar to be developed in Massachusetts in the next several years. We have also proposed a new community solar initiative that is currently before the Massachusetts Department of Public Utilities (DPU). This effort will help lower solar access barriers for low-income customers who have not previously been able to benefit from the commonwealth's solar incentives.

We support regulatory efforts to enable more efficient interconnection of customer-owned solar facilities and have proposed a comprehensive 10-year distribution system assessment to be performed on a yearly

² This amount of solar generation represents 10% of the total installed megawatt capacity of solar generation facilities in the commonwealth as of July 31, 2020.

basis that considers infrastructure investment in consideration of clean energy and climate policy objectives.³ Our system planning proposal is intended to identify optimal infrastructure solutions that can accommodate various types of load growth as well as high penetration of DER to bring broader benefits to customers. The approach involves developing a probabilistic scenario-based DER adoption rate and load forecast methodology to evaluate the system's performance and assess the need for substation capacity upgrades over the 10-year planning horizon. Our process allows stakeholders to review and comment on the study methodology, results and reports, and follows fundamental planning principles established by the Federal Energy Regulatory Commission in Order No. 890. We are committed to transparency and a collaborative process to ensure meaningful engagement in our system planning process.

Battery Energy Storage

In 2022, we completed construction of our Outer Cape Battery Energy Storage System (BESS), an award winning, innovative solution that improves reliability on the narrow geography of Outer Cape Cod. We designed and built a microgrid on a 13-mile circuit, anchored by a 24.9 MW/38 MWH lithium-ion battery that acts as a source of backup energy. It automatically provides backup power within moments of an outage to more than 10,000 customers currently served by a single 13-mile distribution line in the towns of Wellfleet, Truro, North Truro and Provincetown, Massachusetts. This project also strengthens reliability in the area by adding upgraded equipment that will create a "smart grid" to supply power to the Outer Cape towns on a continuous basis, not just when the storage system is called upon to operate.

Vegetation Management

Our Resiliency Tree Work program is part of our ongoing efforts to improve reliability by addressing the removal of hazard trees impacted from the stress from invasive insects and drought conditions. This effort requires interaction with individual property owners and customers working together to address these emerging issues.

Our arborist staff works hand in hand with municipal tree wardens reviewing program goals for individual communities. The relationship with these keepers of the urban canopy allows us to work in partnership to address these issues.

Resiliency and Technology Innovations

We are investing \$189 million in Massachusetts to increase system automation and improve efficiency as part of our work for grid modernization. This includes implementing a Volt-Var Optimization (VVO) project.

At the bulk system level, the increasing reliance on distributed inverter-based generation to meet demand is causing new challenges for the transmission and distribution system. In periods when distributed solar provides the bulk of the regional supply, transmission operators increasingly require distribution devices to provide voltage and reactive power support. Grouping, monitoring, coordinating and dispatching such assets (capacitor banks, regulators and DER inverters) at a regional level is not feasible today due to the lack of communication and integration between those devices. The VVO system currently operates based on

³ Investigation into Electric Distribution Companies' (1) Distributed Energy Resource Planning and (2) Assignment and Recovery of Costs for the Interconnection of Distributed Generation, D.P.U. 20-75, Initial Comments of NSTAR Electric Company (December 23, 2020), and System Planning Analysis Proposal (April 23, 2021).

feedback from devices on the circuits, creating an inherently reactive response. Transitioning to a model-based control system enables VVO to proactively address voltage and power reduction.

We have deployed VVO at four stations in Western Massachusetts. Participating feeders represent a diversity of urban and rural areas; residential, commercial and industrial load; and varying levels of DER penetration. Preliminary results from the VVO deployment at the four stations are in line with our expected reductions in demand (1.8%) and energy use (2.2%). The VVO system is successfully working to flatten and lower voltage profiles at the station and feeder level. With coordinated control and feedback from line sensors, VVO enables more flattening (reduced losses) and reduction in voltage (power and energy savings) along the length of the feeder.

Grid Modernization

We have developed advanced planning and forecasting capabilities to assess system needs due to increased renewable energy adoption and load increase from electrification to ensure we meet our obligations to serve load and interconnect DERs in the future. We are currently assessing climate change risks to our electrical infrastructure in Massachusetts, including the impact of ambient temperature rise, sea level rise, prolonged heat waves and severe winter conditions.

The Company received approval from the Massachusetts DPU in November 2022 to implement Advanced Metering Infrastructure (AMI). This technology will greatly improve the visibility into what is occurring on the grid edge and improve how the grid is managed. It will also provide more data and information to customers to help them manage their own electricity usage.

EV Infrastructure

The 5-year Phase I Massachusetts EV order ended in 2022 with a fully subscribed program. The Phase II order was approved to begin in 2023 and includes support of municipal curbside charging systems; establishing relationship with fleet operators to understand their go-to-market and fleet transition strategies; expanding residential single-family and small multifamily customers; and developing our Managed Charging program. We are also conducting equity and environmental justice pilots for Direct Current Fast Charge (DCFC) charging hubs and medium duty/heavy duty fleets serving or operating in environmental justice community (EJC) areas.

We recently partnered with Good2Go, a Boston-based income tiered EV car sharing company to advance the EV experience in moderate income communities. Good2Go has located their EV cars in EJC's in Boston, with a discounted rental rate for income-qualified drivers. Eversource supports the installation of EV infrastructure at these locations to provide convenient locations to charge in the city, and the cars are located in areas that are easily accessible to their local neighborhoods.

In February 2023, we partnered with the city of Boston to install infrastructure for the charging stations that will supply power to 20 new electric school buses that are part of the Boston Public School's fleet.

Designing Infrastructure for the Future

With the growth of distributed generation in Massachusetts, we are reviewing clusters of distributed generation and are planning distribution and transmission upgrades accordingly. We plan to use this approach with increased frequency to account for the holistic needs of the region (rather than a piecemeal approach) while providing cost savings and reducing local environmental impacts.

On Cape Cod, we're working with ISO-NE to develop an integrated approach to address both reliability demands and future interconnection needs for offshore wind through a proposed 115 kV to 345 kV capacity upgrade and substation investments.

We are also developing our Greater Cambridge Energy Project, a unique solution to support both the system reliability needs and future growth due to electrification goals of the City of Cambridge that includes a new substation located underneath a public park between Boston Properties' residential and commercial buildings.

We are currently using the MA Decarbonization Roadmap by 2050 for short, medium and long-term forecasting.

Heating Decarbonization

Geothermal

We are undertaking an innovative networked approach for our pilot in an environmental justice community within the city of Framingham, Massachusetts. In 2022, we began field work for our pilot and construction is expected to begin in spring of 2023. Service will be provided to a wide, cross-section of residential, apartment and commercial properties, including service to low-income customers. This pilot will use a mix of current fuel sources to help understand the emissions reductions and other benefits to customers who currently receive delivered fuels (oil or propane) or who use electric resistance and gas heating. The purpose of the pilot is to gather sufficient data on the costs to install and operate the system, customer satisfaction and response, as well as information needed around the possibility of rolling out a larger geothermal program as an alternative energy source to other areas in our service territories.

Access to Renewable Energy

We are streamlining the process to access renewable energy to better serve our customers in partnership with the Massachusetts Technical Standards Review Group. Guidelines for interconnection are available on our website.

Our approach to cost-effective integration of offshore wind energy into the existing grid is also guiding our approach toward distributed generation in Massachusetts, where we are looking at clusters of distributed generation and planning system upgrades. Distributed generation developers may face challenges connecting to the grid based on the amount of resources in queue and uncertainties around the cost associated with such interconnections. We have worked with the DPU to submit infrastructure improvements to enable DER in the commonwealth in compliance with D.P.U. 20-75-B Order to enable proactive system capacity upgrades in high distributed generation growth regions. In compliance with the order, we have also quantified the benefits of these infrastructure plans to low-income and environmental justice populations.

Energy Efficiency

Our energy efficiency programs support efforts such as weatherizing thousands of Massachusetts homes and businesses, offering hundreds of millions of dollars in incentives for equipment upgrades, creating innovative demand response solutions, and partnering with schools and nonprofits across the state to ensure equitable workforce development.

Given the investment needed for participants to implement energy efficiency solutions, we created ways for economically stressed families and businesses to participate and benefit from the long-term savings that follow these improvements.

We are leading the way to bring the latest clean technology to our states in an equitable manner. To do so, we're working with business partners to pioneer an ambitious investment in electrification, with technologies like air- and ground-source heat pumps. We also offer demand response solutions to help us manage demand loads, which can reduce construction of new generation plants and lower the use of less-efficient, higher-emissions plants at peak times. These solutions, along with our core efficiency investments, will be a key tool in managing peak load growth within ISO New England moving forward.

Over the past decade, the commonwealth has created and maintained the nation's top energy efficiency programs. We are proud to be consistently recognized as a leader in energy efficiency by national industry organizations, including the American Council for an Energy-Efficient Economy. Our offers reflect and respond to the way our customers use energy today with a multiyear approach that enables us to help customers plan for the future.

The Sponsors of Mass Save® have received approval from the Massachusetts DPU on a 3-year electric and natural gas energy efficiency plan for 2022 through 2024 that will provide an estimated \$13 billion in benefits to the commonwealth. With this energy efficiency framework, Massachusetts continues to lead the nation through its focus on equity that follows a long-established and successful regulatory pathway providing customers with best-in-class energy saving and bill-reduction tools.

This plan demonstrates how the program administrators will provide Massachusetts customers the tools necessary to maintain the commonwealth's leadership position tackling the critical need for greenhouse gas emissions reductions. Our plan accomplishes this important goal while staying true to our historical mission of helping all residents and businesses reduce their energy usage and manage energy costs, and we look forward to our continued collaboration.

In 2022, our Massachusetts Main Streets energy efficiency program tripled outreach compared to a 2020 benchmark by serving 55 communities and focusing on the non-English speaking customers. Main Streets events completed in 2022 resulted in 1,500+ projects (30% increase year over year) and a resulting annual savings of over 19M kWh and 274K therms.

Appendix B: Connecticut Programs that Support Climate Goals and Adaptation

Support of State Climate Plans

We support programs that pave the way to reach Connecticut's climate goals through clean energy, energy efficiency and energy storage. On May 17, 2022, Governor Lamont signed Public Acts 22-5 and 22-14, codifying a 2040 zero-carbon electric grid goal and expanding state programs that support distributed renewable energy generation. We administer several of these distributed generation programs which support the State of Connecticut in achieving its zero-carbon goals. In early 2022, Connecticut's Public Utilities Regulatory Authority (PURA) launched Energy Storage Solutions, a statewide electric energy storage program to foster a more reliable and resilience electric distribution system, especially for vulnerable communities.

Solar

We currently operate three clean energy programs in Connecticut. The Residential Renewable Energy Solutions program (RRES), the Non-Residential Renewable Energy Solutions program (NRES) and the Shared Clean Energy Facilities program (SCEF).

Both the RRES and NRES programs launched in 2022. Over the past year and a half, Eversource worked closely with Connecticut regulators, industry and other stakeholders to design and launch these new initiatives. Both programs provide incentives for customers to install on-site renewable energy generation which can also be paired with storage. We expect 488 MW of new clean energy projects to be developed through the NRES program and more than 300 MW of new solar projects to be developed through the RRES program. Energy from these distributed renewable generation projects will help displace fossil fuel generation in Connecticut and move the state closer to achieving its zero-carbon targets.

We also provide opportunities for Connecticut customers to access the benefits of clean energy through the SCEF program. In this program, Eversource will procure up to 180 MW of new renewable generating facilities and deliver bill credits generated by these projects to participants for up to 20 years. The program is focused on serving historically disadvantaged populations, particularly low-to-moderate income customers and other customers who cannot install on-site solar. The SCEF program eliminates traditional barriers to accessing solar energy for qualifying customers and will help our most vulnerable customers achieve clean energy savings on their electric bills.

Battery Energy Storage

In 2021, we introduced Energy Storage Solutions, a battery storage program for residential, commercial and municipal customers in Connecticut. It offers access to affordable backup energy storage to help customers be more prepared during storms. Participation in our battery demand response program rewards customers for drawing power from their battery system during times of high demand, lessening the strain on the electric grid. In many cases, this energy is drawn from batteries storing energy produced by our customers' solar panels.

We have recently proposed energy storage projects at three locations in Connecticut to resolve existing and projected reliability and resiliency needs for customers and critical facilities. These three projects will provide both relief for local system capacity issues and can form a microgrid to provide power to local critical and essential services facilities during times of grid outages. Additional storage resources to assist in reliability and resiliency are in early development in Massachusetts as well.

Vegetation Management

We continue to work with communities and customers to identify, prioritize and remove hazard and risk trees to improve reliability and public safety. As part of that effort, we planted hundreds of compatible trees and gave out thousands of seedlings for Arbor Day. The use of utility-compatible trees and seedlings follows the right tree, right place approach and supports resiliency and sustainability by having trees near power lines that will never have to be trimmed for the power lines or cause an outage when they reach mature height.

Our management continually evaluates each individual right of way and determines whether the long-term issues of reliability and resiliency goals are met given more frequent and severe weather events. Projects are explored and undertaken to expand the early-successional, low growing plant community floor by removing those trees that threaten the lines, which reduces the risk of falling trees and limbs and improves the transmission system.

Heating Decarbonization

We actively participated in the development of the state's new 2023 Competitive Energy Strategy that assesses the future energy needs of Connecticut while identifying multiple approaches to reduce costs; ensure reliability, affordability and equity; and reduce environmental impacts within the energy grid. We also studied hydrogen and its role in Connecticut's economy and infrastructure through our involvement in the State of Connecticut Hydrogen Task Force. A task force study report was submitted to the Energy and Technology Committee in January 2023 with our collective findings.

EV Infrastructure

In 2022, Connecticut launched its new 9-year EV charging program to support the state's decarbonization goals by providing customers guidance and incentives for EV charging projects. We have implemented the programmatic framework for successful implementation of residential, commercial and industrial offerings related to Level 2 and Level 3/DCFC smart chargers, including focus on distressed communities and a robust marketing campaign.

We are expanding access to EV charging to customers who would normally have more challenges in accessing EV chargers by providing rebates for multifamily properties and addressing barriers to EV charging in distressed communities by providing enhanced incentives for qualifying EV chargers.

Most program areas became fully subscribed for the first 3-year program cycle (2022-2024) with 702 approved EV sites and over 400 EV charging ports installed. In 2022, these projects have been energized with the remaining 1600 ports scheduled to be completed over the next 12 months. 181 commercial charging port rebates have been redeemed in disadvantaged communities to date.

Our residential program offers rebates for EV chargers and wiring upgrades, as well as participation in managed charging for grid optimization. Managed charging enrollment is conditional for customers to receive charger and wiring rebates. The program has seen steady participation with nearly 700 customers

receiving EVSE rebates and 280 customers enrolling their vehicle via telematics in managed charging. More than 1,300 residential customer participations (rebates and/or managed charging participation) have been enabled to date.

Designing Infrastructure for the Future

We have recently implemented a Substation Special Projects Group to manage DER-related impacts (including EV, BESS and PV) to substation infrastructure across all three states. We are currently supporting a large CT DOT-EV Bus Charging Station Project which will drive the need for a new substation in the Hartford area.

Energy Efficiency

Efficiency programs help mitigate climate change by reducing greenhouse gas emissions and harmful air pollutants, resulting in improved public health and protecting the environment. Improving building efficiency lowers energy bills, reduces operating costs, and drives demand for a highly skilled efficiency workforce, all of which make positive contributions to Connecticut's economy

Our conservation and load management (C&LM) programs, delivered under the Energize CT initiative, remain the most cost-effective policy tool to protect the environment, promote economic development, and provide energy security. The three priorities of the 2022-2024 C&LM plan are equity, decarbonization and energy affordability.

On both the residential and commercial fronts, we implemented emissions-reduction strategies to help customers construct energy-efficient buildings, weatherize properties, install high efficiency appliances and heating and cooling equipment, and implement sustainable operations. These offerings were coupled with financing options.

Appendix C: New Hampshire Programs that Support Climate Goals and Adaptation

Support of State Climate Plans

Eversource has been actively engaged in the 2021-2023 New Hampshire Statewide Energy Efficiency Plan to promote energy savings, lower costs for consumers and reduce New Hampshire's reliance on fossil fuels. We are also currently conducting a study to assess the climate change risks to our electrical infrastructure in the state, including the impact of ambient temperature rise, sea level rise, prolonged heat waves and cold snaps. This in addition to work we are doing to interconnect clean, renewable energy into both New Hampshire and more broadly through New England by supporting offshore wind, solar and other initiatives. Infrastructure projects utilize a decision-matrix to analyze environmental considerations such as climate impacts are addressed through the project review process.

Solar

In July 2022, New Hampshire legislature passed SB 270 establishing a low-to-moderate income community solar program. Once development is complete, Eversource will be partnering with the New Hampshire Department of Energy to identify and enroll low-income customers participating in the electric assistance program into community solar projects. Participating customers will receive a monthly solar bill credit for up to 20 years.

In addition, New Hampshire RSA 374:G allows for utility investment in distributed energy resources up to 6 percent of a utility's total distribution peak load. The goal of this program is to reduce greenhouse gas emissions, develop additional renewable resources, and reduce costs to customers. Eversource is reviewing this statute and recent regulatory orders to identify potential opportunities for solar development in the communities we serve.

Battery Energy Storage

We continue to develop our battery storage programs to improve access to affordable backup energy storage that enables customers to be better prepared during storms. Participation in our battery demand response program rewards customers for drawing power from their battery system during times of high demand, thus lessening the strain on the electric grid. In many cases, this energy is sourced from batteries storing energy produced by our customers' solar panel systems. Eversource's ConnectedSolutions program offers battery storage solutions for participating customers who are rewarded for allowing Eversource to use the energy stored in their batteries at times of high demand. In New Hampshire, we have proposed five programs to the state's Clean Energy Fund that have all been approved. And in late 2022, we launched three of these incentive programs for residential and commercial battery projects in addition to no-interest loans for residential battery projects.

Vegetation Management

In New Hampshire, we are actively surveying the roadside forest adjacent to our electric distribution system. We perform vegetation maintenance on over 2,400 miles of power line each year. While the contracted work planners are compiling information on locations for tree trimming, they are also looking for hazard trees.

The spongy moth and the emerald ash borer have had a devastating presence on our system. We have collaborated with the NH Division of Forests and Lands, sharing information on populations of invasive insects or diseases. Forest health specialists performed aerial surveys across the state, the data was incorporated into “heat maps” indicating where the infestations were occurring, along with the acreage that was defoliated by spongy moth or consisting of tree mortality. These heat maps have been incorporated into our scheduled workplan and provide direction to steer our resources to the most vulnerable areas of the roadside forest. The collaboration with Division of Forests and Lands continues as we are now surveying for beech leaf disease in 2023.

EV Infrastructure

As part of our \$2.1 million “Make-Ready” program approved in mid-2022, we are funding DC fast charger installations along travel corridors to enable EV travel to and within New Hampshire by residents and visitors. The funding will supplement grants awarded by the NH Department of Environmental Services (DES) through the Volkswagen Mitigation Trust and will cover the cost of utility-side and customer-side EV charging infrastructure. We have been proactively engaging with the various site hosts and contractors and strategizing with NH DES to determine the optimal split between the two funding sources that will maximize the number of projects we can support.

Eversource also received approval for a Demand Charge Alternative rate that addresses the fact that public EV charging stations are expected to have relatively low energy utilization during the first few years of station operation. This low utilization makes demand charges a barrier to the development of EV charging stations. The optional Demand Charge Alternative rate removes this barrier by offering a volumetric rate for a targeted range of utilization instead of demand charges.

Energy Efficiency

In early 2022, Oyster River Middle School in Durham, New Hampshire, became the first building across Eversource’s New Hampshire footprint to receive funding under the Commercial New Construction net zero energy pathway. Commercial buildings account for a significant portion of the state’s GHG emissions, which has inspired Eversource’s net zero pathway program to focus on providing the technical and design assistance that enables the efficient construction needed to meet emission reduction goals. Together, NHSaves utility partners, Eversource and Unitil, provided a \$146,900 incentive to support the design of the new sustainable building.

Significant features of the school include a geothermal system contributing to onsite renewable energy, enhanced wall and roof insulation, a solar hot water system to preheat domestic hot water, LED lighting controls with day lighting and occupant sensors, 35% water use reduction, light pollution reduction, surrounding density and diversity used, reduced parking footprint, increased open space, compact building footprint and vertical program organization resulting in 23% more spatial efficiency, and 1,450 solar panels installed on both the school building’s roof and bus port. The school’s solar installation is estimated to generate 697,000 kWh annually, offsetting 683,757 pounds of carbon every year.

Appendix D: Zero by 2030 – Our Carbon Neutrality Goal

Our goal to achieve carbon neutrality in our operations by 2030 demonstrates our commitment to be a leader in our industry when it comes to addressing climate change. By fostering an innovative and collaborative approach to enhance efficiencies and introduce new technologies, we are driving emissions as close to zero as possible with an intent to limit the amount of emissions that will need to be offset as much as possible.

We are focused on reducing emissions in the following areas:

Line Loss

The energy lost when power is transmitted and distributed across the grid is one of the electric industry's biggest challenges for emissions reduction. Collaborating with state and regional efforts to enable a cleaner mix of energy within the grid is the most effective way for us to address this issue. We are also implementing distribution infrastructure projects to interconnect distributed energy resources (DER) projects and to replace inefficient distribution transformers that will enhance system efficiency.

Methane

We continue to reduce methane emissions within our natural gas service territories in Connecticut and Massachusetts by replacing aging bare-steel and cast-iron natural gas pipelines to enhance safety and minimize the release of methane emissions into the atmosphere. We are also pursuing opportunities to incorporate long-term solutions to decarbonize the natural gas product for our customers. Projects we are investigating include venting recapture, the use of renewable natural gas and clean hydrogen, and leveraging our natural gas assets in the future for potentially integrating renewables. We are working with our states as they evaluate electrification strategies targeted at the heating sector and we are piloting a networked geothermal project to provide heating and cooling for a grid of interconnected customers.

Facilities

We continue to pursue aggressive strategies aimed at reducing electricity and fuel use at our facilities. We are evaluating and upgrading HVAC equipment with more efficient models including electric heat pumps. We are implementing measures to lower our energy use with control system upgrades and space optimization, improve building envelopes, and using renewable energy when feasible.

Fleet

A key focus for our fleet operation is the drive to reduce emissions from fuel consumption across our service territory. We continue to adopt hybrid vehicles and alternative fuel sources as substitutes for diesel and gasoline, such as biodiesel. We are also investigating the feasibility of emerging fuels, such as renewable diesel and hydrogen, as lower emission alternatives to traditional diesel.

In addition to alternative fuel sources, we are partnering with vendors to implement technologies that improve fuel efficiency. Examples include the use of GPS systems to optimize driver behavior and engine calibration software to refine a vehicle's engine performance and reduce emissions.

We have also established partnerships with vendors developing innovative hybrid electric technologies, such as AltecJEMS® and XL Fleet, that specialize in emission-reducing tools and technology to help reduce idle time and improve fuel efficiency. By 2030, our goal is to have 100% of our bucket trucks utilizing hybrid technology and replace 50% of all fleet vehicles with hybrid EVs.

SF₆

We have made great progress in reducing sulfur-hexafluoride (SF₆) emissions from our existing electric equipment through strong maintenance practices and the successful implementation of a detailed SF₆ tracking and inventory program. We are working with industry partners to research and test solutions to reduce the dependency on SF₆ as an insulator in both low and high voltage electrical equipment, which includes piloting SF₆-free equipment.

In anticipation of near-term alternative insulating gases becoming available, select new equipment is being designed to accommodate these alternative non-SF₆ insulating gases. We recently energized the first 115kV (kilovolt) clean air breaker in the United States as part of a suite of upgrades made to our Tunnel substation in Preston, Connecticut. This newly installed breaker uses purified oxygen as the insulating medium.

Please refer to our [Sustainability Report](#) for the most recent update on our progress.