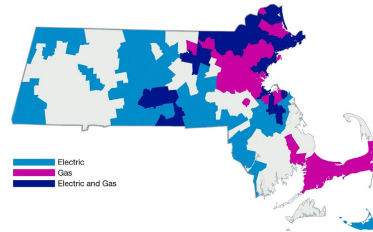


# An Overview of National Grid's Future Grid Plan

National Grid



**National Grid** is taking action to achieve net zero greenhouse gas emissions and deliver the fair, affordable and clean energy future to **2.3 million customers** in more than **240 towns and cities** ....



... via our networks...

<b>3K</b> Miles of Electric Transmission & Sub-Transmission	<b>18.5K</b> Miles of Electric Distribution	<b>~1.3M</b> Electric Customers
<b>11.2K</b> Miles of Gas Distribution Main	<b>~3k</b> Miles of Leak Prone Pipe	<b>~950K</b> Gas Customers

... by our teams....

<b>~6,500</b> Employees	<b>~3,300</b> Union Employees represented by 15 unions
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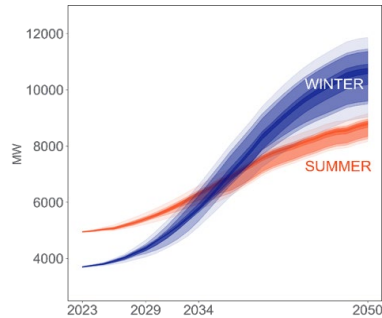
... making connections...

<b>200MW</b> Total Distributed Energy Resources connected 2022	<b>~1,800</b> EV Chargers enabled to date	<b>18K+</b> Heat pumps installed via Mass Save programs in 2022 -- ~30% above goal
<b>2.3GW</b> DER connected to our network	<b>~32K</b> Additional EV Chargers to be enabled via Phase 3 programs	<b>45K+</b> Additional heat pumps targeted to be installed via Mass Save by 2024

... and supporting our communities.

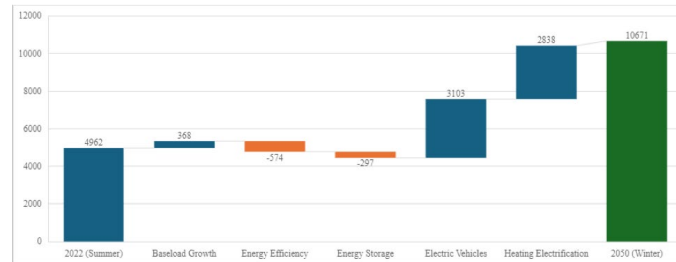
<b>13K+ Hours</b> of employee volunteerism	<b>\$4+ Million</b> in charitable contributions
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## Advancing Smart Electrification: Meeting Doubled Peak Demand, Seasonal Shifts



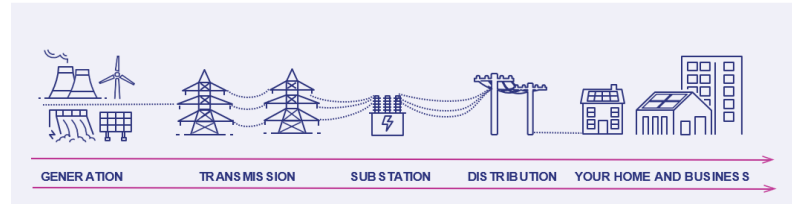
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Annual peak load growth through 2050 by components

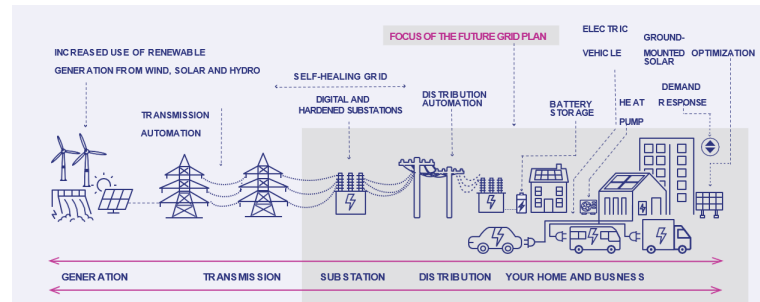




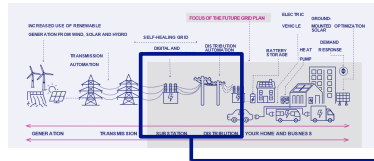
## Yesterday's Grid...



## The Future Grid: Stronger, Smarter, Cleaner

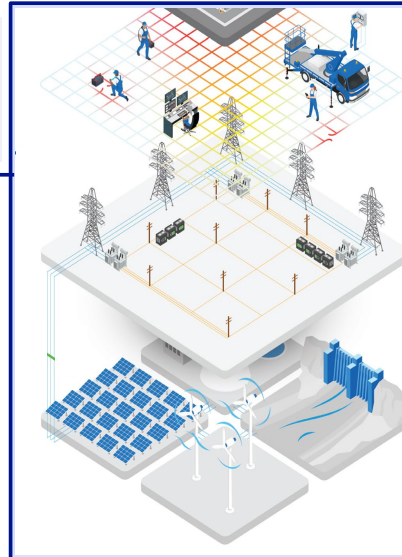


## The Future Grid: Stronger



The Future Grid Plan redesigns and upgrades the necessary utility systems that deliver energy. These investments will transform the grid to a stronger network that is built to today's standards for reliability, resiliency, and security (security enhancements), regardless of weather or evolving threats.

National Grid



### Network Infrastructure

Develop a strong network that is one step ahead of customer needs, with expanded capacity that is ready to respond to developer request.

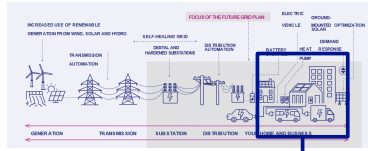
### Reliability and Resiliency

Build & operate a stronger network that is reliable, resilient, and secure, regardless of weather or evolving threats

### Communications and Technology Platforms

Create a smart, flexible, and dynamic grid that can manage the future supply mix and energy needs, and leverage distributed resources with real-time communications to solve grid problems and provide grid resiliency.

## The Future Grid: Smarter



Inside your home and local business, the Future Grid Plan will help bring more customer choice and flexibility to your life. It will make sure all the different components of the home work together to improve efficiency and allow customers to take control of their energy bills.

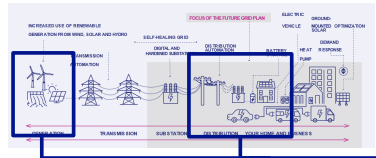
National Grid

**Participating in the Clean Energy Transition**  
 Empower customers to participate in the clean energy transition by making it easier to adopt electric vehicles and heating, and to connect solar and storage. Customer portals and hosting capacity maps will increase the speed and transparency of interconnection.

**Saving Money & Optimizing Home Energy Use**  
 Enable customers to take more ownership of their bill via adopting technologies like solar to reduce their energy usage and earning value through incentives and participation in VPPs.

**Comfort & Convenience**  
 Allow customers to remotely manage their homes based on their needs first (e.g., to a pre-set temperature) while optimizing excess energy and flexibility based on grid needs

## The Future Grid: Cleaner



In your local towns and communities, the Future Grid Plan works to preserve reliability and resiliency, but also enhance customer choice and flexibility for clean energy technologies. New innovative solutions will remove barriers to DER adoption and allow for a connection ready grid that also supports the Commonwealth's and Company's equity goals.

National Grid



### Connecting our Customers to Renewables

Enable and connect our customers to the increased renewable generation on the grid, including wind, solar, hydro, geothermal, and storage.

### Non-Wire Alternatives

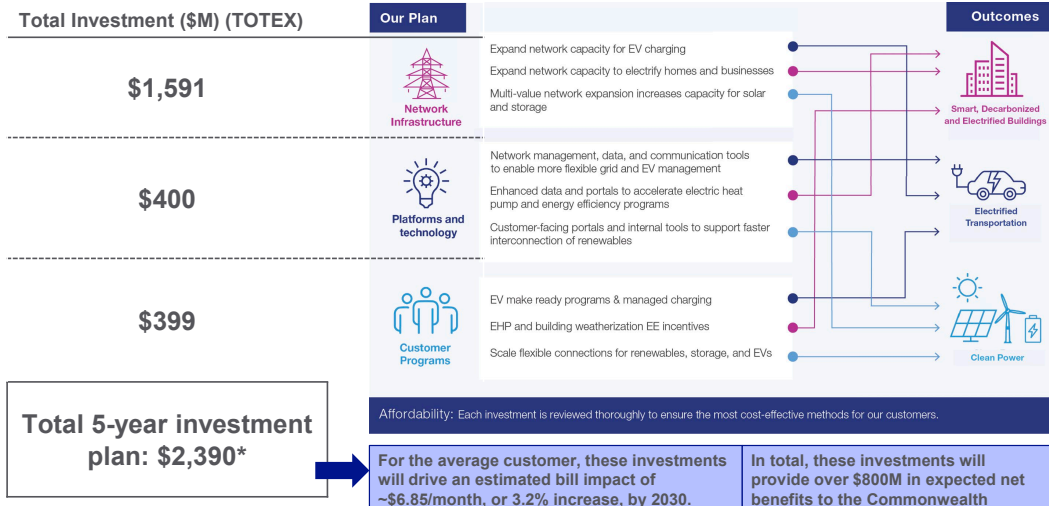
Leverage virtual power plants as non-wire alternatives to connect new customers faster and to defer network infrastructure investments where cost-effective and feasible

### Customer Programs

Provide customers with information, products, and services to enable clean energy, efficiency, and demand management options so they can make the energy choices that work for them, when they want them.



## Proposed Investments, Actions and Outcomes



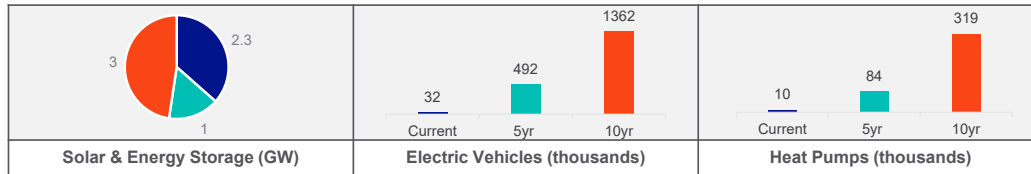
National Grid

\*In addition to the costs in this table, the Company also projects expending \$71 million in capital and associated operating and maintenance costs for new CIPs.

## What the ESMP Delivers

For our customers, communities and the Commonwealth, incremental to pending investments

	Current Systems	5-year plan (2025 – 2029)	10-year plan (2025 – 2034)
Our Network	264 substations 1,318 distribution feeders	13 upgraded substations Expansion of 14 feeders	45 new/upgraded substations Expansion of 27 feeders



	Current Systems	5-year plan (2025 – 2029)	10-year plan (2025 – 2034)
NWAs & Enabling Tech	One battery project on Nantucket to avoid an undersea cable	Advances 17 Bridge-to-Wires NWAs & 2 deferral NWAs including equity-focused VPP offerings	Expanded NWAs to defer investments, at scale
Economic Activity & Jobs Created		More than 3,900 full- and part-time jobs, and \$500 million of incremental economic activity	More than 8,700 full- and part-time jobs and \$1.1 billion of incremental economic output

## Stakeholder Engagement Overview

Through the ESMP process, National Grid has engaged with more than 400 individual stakeholders, representing more than 250 unique organizations, agencies, governmental entities, businesses and groups on various issues related to and aspects of the ESMP, including its purpose, development, implementation, deliverability, and impact. Outreach includes webinars, workshops, technical feedback sessions, and dedicated informational events.

### 80+ Municipalities

Including communities within each of National Grid's six service sub-regions and dozens of Environmental Justice Communities.

### 20+ Community & Nonprofit Organizations

Including a variety of environmental justice, environmental and consumer groups with diverse representation.

### 3 Technical Workshops

Including more than 35 invitees from various stakeholder groups, including community organizations, environmental advocacy and environmental justice organizations, state agencies and members of the business community. One workshop specific to DER providers and developers.

### 7+ State Agencies

Including agencies under four different Secretariats, in addition to the Office of the Attorney General.

### 10+ Business Organizations

Ranging from Chambers of Commerce within different areas of the state to business associations from specific industries, such as hospitals and restaurants.

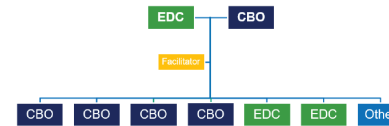


### 4+ Labor Organizations

Including representatives from the Utility Workers Union, United Steelworkers Union and IBEW

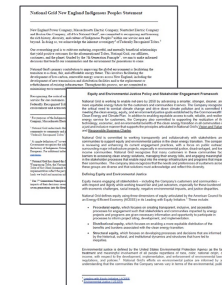
## Increasing Stakeholder Engagement as we Deliver the Plan

National Grid and the other EDCs are proposing the development of a Community Engagement Stakeholder Advisory Group (CESAG). The primary objective of this group is to develop a community engagement framework, centered in equity, that can be applied to major infrastructure projects. The CESAG will be co-chaired by a community-based organization (CBO), **giving more of a voice to those who historically have not been directly involved in the utility planning process.**



The Company developed a formal Equity and Environmental Justice Policy and Engagement Framework which complements the National Grid Indigenous Peoples Initiative.

- Articulate the Company's commitments to centering equity and environmental justice in its Future Grid Plan
- Build on the Company's existing formalized outreach and engagement practices
- Incorporate input received from EJ stakeholders and recommendations from recent studies published by EEA and the Attorney General's Office (AGO)



The logo for National Grid, featuring the word "nationalgrid" in a white, lowercase, sans-serif font. The word "national" is in a lighter weight, and "grid" is in a bolder weight. A small white diamond shape is positioned above the letter "i" in "grid". The logo is centered on a solid dark blue rectangular background.

nationalgrid