

Building a Smarter, Stronger, Cleaner Energy Future

nationalgrid

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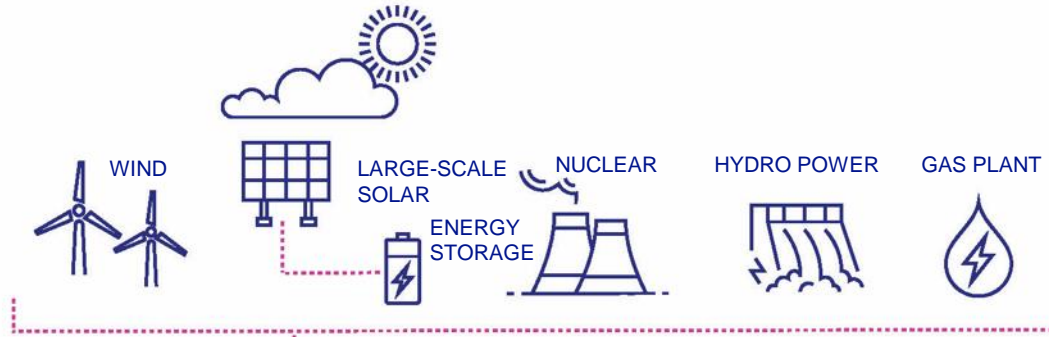
Where We Are, Where We're Headed

- **We're On Our Way.** Achieving the Commonwealth's climate and clean power targets is an ongoing success story that's already under way... and there is much more to do.
- **Upgrades Ahead.** It will require an electric network buildout and upgrade at a significant pace and scale, in collaboration with policymakers, customers and communities.
- **Future Forward.** It will require that we transform our capabilities and create a network that's fundamentally smarter, stronger and cleaner than today's system. This future network must:
 - deliver necessary emission reductions
 - enable deployment of new, electrified end-use technologies and clean resources
 - and provide a more individualized, seamless and improved experience for all customers

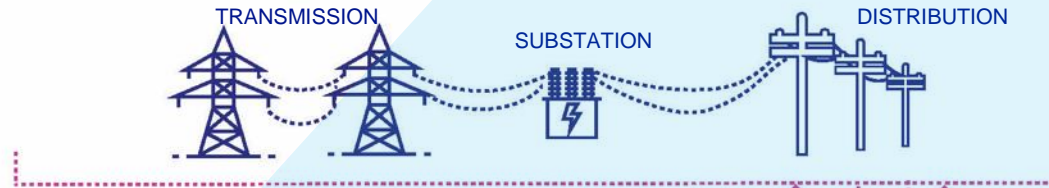


Modernizing Our Energy Systems

Generation



Transmission



Distribution



Key Drivers to Achieving Net Zero by 2050



Expanding Energy Efficiency

Ensure customers are taking advantage of Energy Efficiency Programs and align programs to meet evolving customer needs



Advancing Smart Electrification

Drive electrification of transport and heat, coupled with smart technologies to optimize potential



Integrating Renewables and Storage at All Levels

Maximize and optimize clean resources and their value

The Commonwealth Is Taking Action Today

Through legislation and regulation, the Commonwealth has:

- Established emissions reduction and clean energy technology targets
- Enabled utilities to take steps to modernize the grid and deploy automated metering infrastructure
- Advanced electric vehicle charging
- Supported deployment of distributed solar, energy storage and advanced offshore wind through targets and programs
- Increased the efficiency of homes and buildings, heat pump adoption and building electrification through codes, standards and programs

Utilities are implementing these policies and plans, and those being driven by the federal government and the ISO-NE and are working to align investments accordingly.



What is the ESMP?



In conjunction with the other utilities, each Investor Owner electric utility is required develop an electric-sector modernization plan (ESMP) to proactively upgrade the distribution and, where applicable, transmission systems to meet the Commonwealth's climate goals



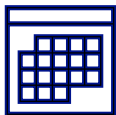
Prepare and use three planning horizons - 1) a 5-year forecast, 2) 10-year forecast and 3) a demand assessment through 2050



Establishes a Grid Modernization Advisory Council (GMAC), who will review the plans and provide advice and guidance to the utilities and the DPU. Its remit is “to encourage least-cost investments in the electric distribution systems, alternatives to the investments or alternative approaches to financing investments that will facilitate the achievement of the statewide greenhouse gas emission limits.”



Submit the first plan for review, input and recommendations to the GMAC by September 1, 2023.



The company files the plan with the department by end of January, 2024, and the department shall approve, approve with modifications or reject the plan within 7 months of submittal.

Our Plan must:

- i. improve grid reliability, communications and resiliency;
- ii. enable increased, timely adoption of renewable energy and distributed energy resources;
- iii. promote energy storage and electrification technologies necessary to decarbonize the environment and economy;
- iv. prepare for future climate-driven impacts on the transmission and distribution systems;
- v. accommodate increased transportation electrification, increased building electrification and other potential future demands on distribution and, where applicable, transmission systems; and
- vi. minimize or mitigate impacts on the ratepayers of the commonwealth.

The Electric Sector Modernization Plan:

Addressing Challenges, Delivering Solutions

Challenge

- Balance grid investment needs
- Align outcomes, customer benefits and impacts
- Fairly allocate costs and ensure needed investments are being made at pace and scale to meet demand and enable clean energy deployment



Solutions

- ✓ **Clear, efficient plan** for where and when investments occur
- ✓ **Transparent** outline of costs and benefits
- ✓ **Balanced approach** to investment and **affordability** for customers

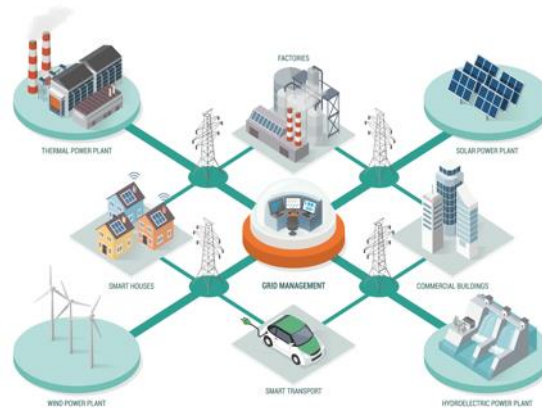
Building a Smarter, Stronger, Cleaner Grid Means



A Ready, Robust and Secure Network

Ensures the network is one step ahead of developer needs and customer adoption

Reinforces the network and leverages technology to drive reliability and resilience



A Flexible and Dynamic Energy System

Leverages distributed resources to meet need, solve grid problems and provide grid resiliency



Customer Empowerment and Action

Provides customers with information and enables options so they can pursue the best solutions for them and the environment

Additional Policy Actions Needed to Deliver Outcomes



Accelerate investment to modernize and optimize the electric network to connect renewables, enable electrification, and build resilience to a changing climate



Expand energy efficiency strategies and programs to increase customer adoption and help decarbonize all homes and businesses



Implement new policies to help decarbonize heat for buildings and industry and help enable innovative clean energy options



Ensure families and businesses can afford their energy bills and easily access energy savings and assistance programs



Train our local workforces to secure jobs in the clean energy economy; provide opportunities to diverse businesses and help secure a home-grown supply chain

Thank You

