

**DER**

Massachusetts Department  
of Energy Resources

COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF ENERGY RESOURCES

*Elizabeth Mahony, Commissioner*

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**GRIPping the Future**  
**NASEO**  
**February 2024**

# Building to a Net Zero Future

## End-Use Energy



Transitioning buildings, vehicles, and other end uses away from consuming fossil fuels

## Energy Efficiency and Flexibility



Aggressively pursuing energy efficiency and flexibility to enable cost-effective decarbonization

## Decarbonizing Energy Supply



Producing zero- and low-carbon energy supplies to power our energy system

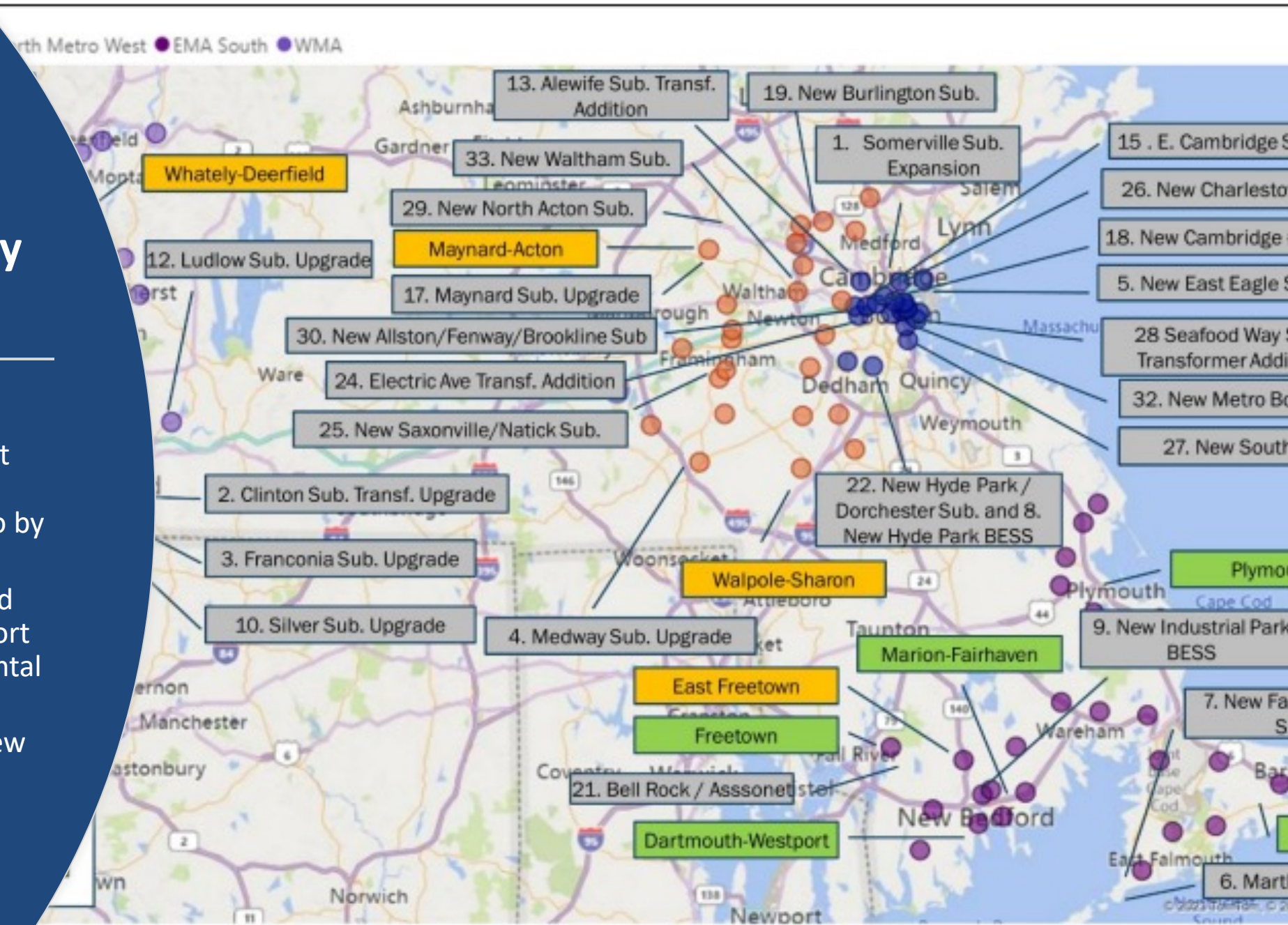
## Carbon Sequestration



Balancing remaining emissions by facilitating carbon sequestration

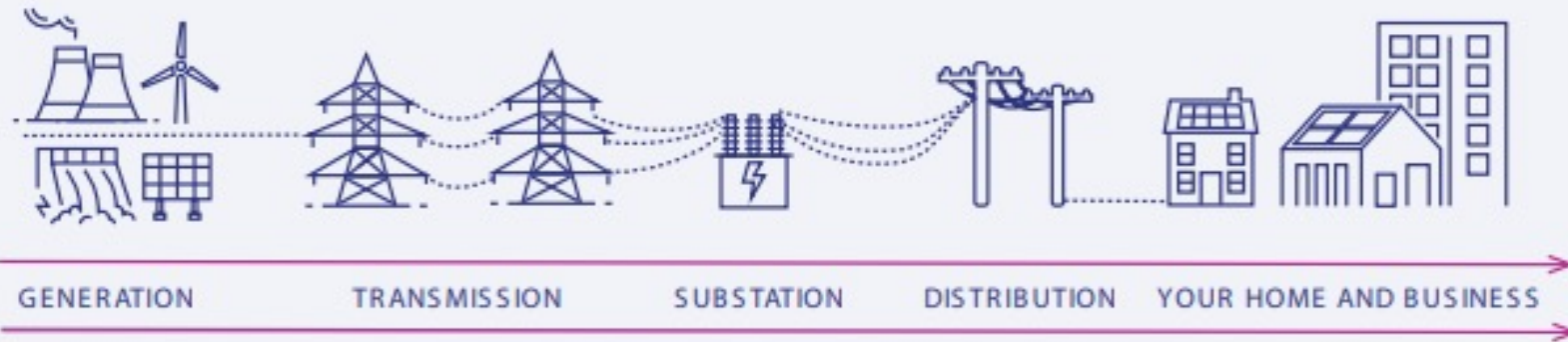
# Building a 21<sup>st</sup> Century Distribution Grid

- Electric Sector Modernization Plans (ESMPs): describe significant investments in new system infrastructure to support Net Zero by 2050
- Details load forecasts, proposed investment expenditures to support clean energy (planned v. incremental to the ESMP), cost recovery
- Proposes nearly \$3 billion in new investments



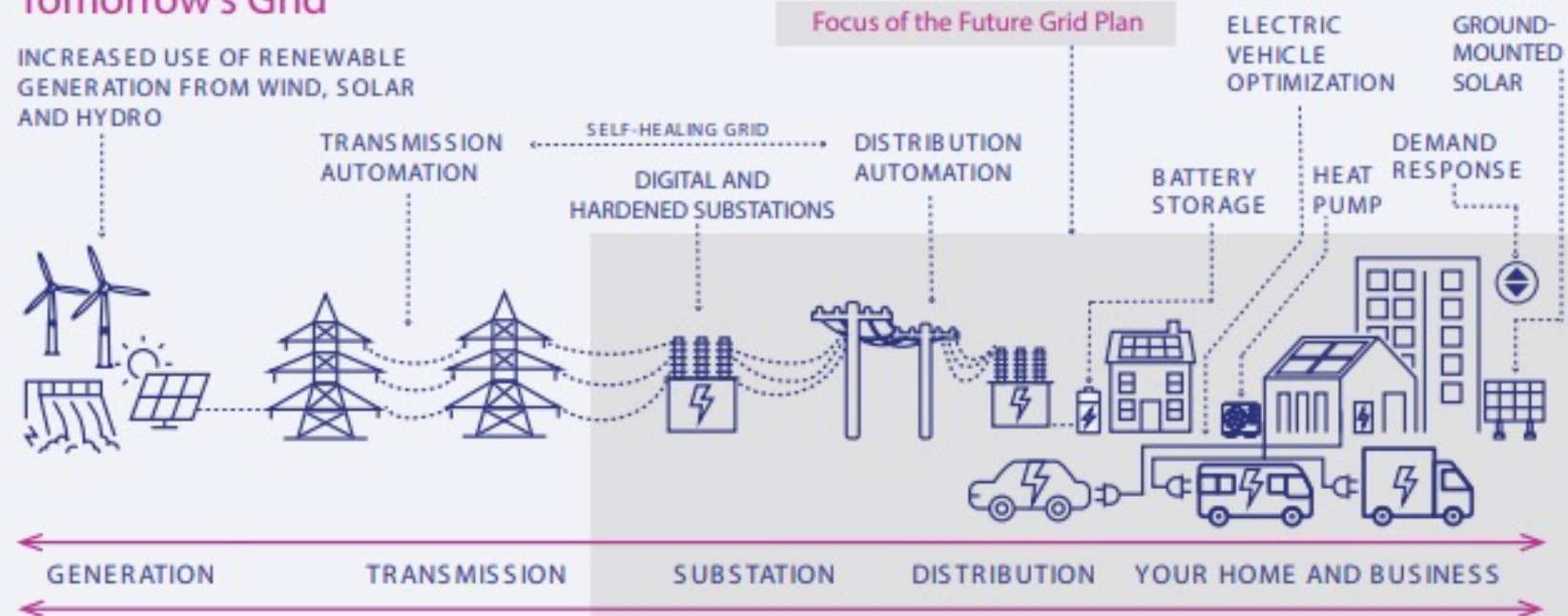
6-2: Location of Proposed and Approved Substation Upgrade Projects and CIPs in the Ten-Year Solution Plan

## Yesterday's Grid



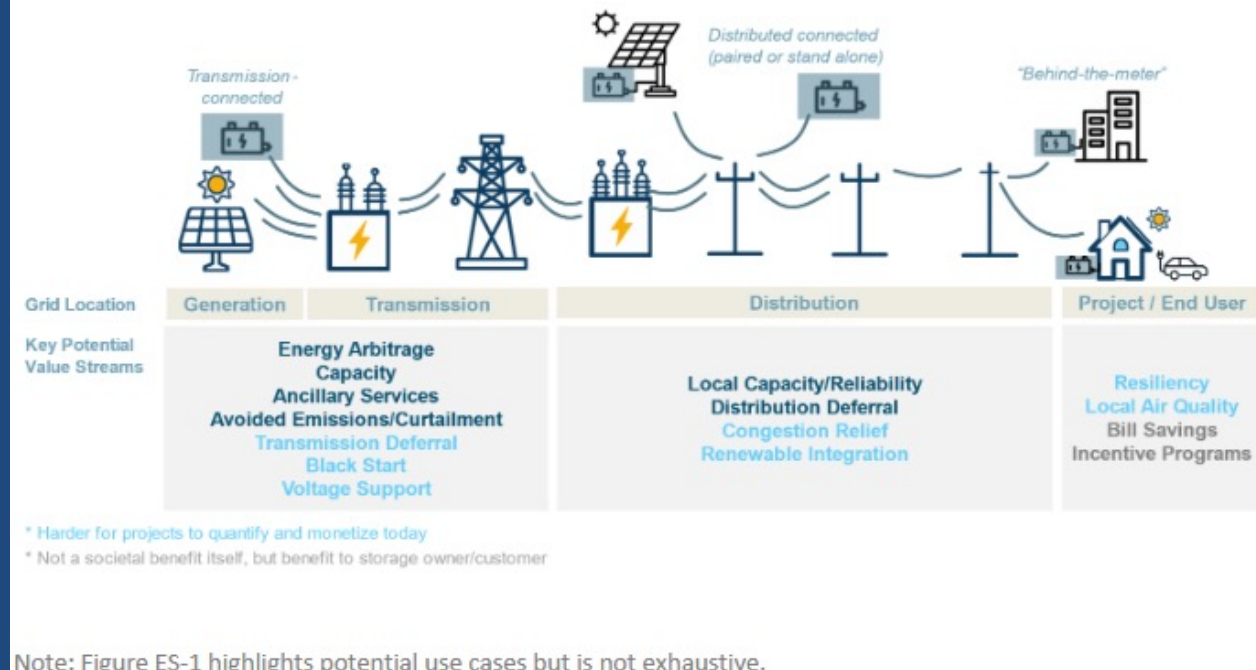
## Tomorrow's Grid

INCREASED USE OF RENEWABLE GENERATION FROM WIND, SOLAR AND HYDRO



# Battery Energy Storage – planning and programs

Figure ES-1. Energy Storage Provides Multiple Potential Benefits on Path from Electricity Generation to Customers



- Solar+storage under SMART
- Clean Peak Standard
- Connected Solutions under Mass Save (EE program)
- Operational Tariff proposals from electric utilities
- 2024 BESS Grants
- [Charging Forward: Energy Storage in a Net Zero Commonwealth | Mass.gov](https://www.mass.gov/info-details/charging-forward-energy-storage-in-a-net-zero-commonwealth)

Note: Figure ES-1 highlights potential use cases but is not exhaustive.

# Eversource's Provincetown BESS

- 25 MW/38 MW hours
- Co-located at Town Transfer station
- Backup power for 10,200 customers on a single 13-mile distribution line
- Provides power quality with steady voltages and can peak load shaving
- During December 18, 2023 storm, kicked on twice to avoid power outage to 5,600+ customers

# MA Clean Energy and Climate Plan

- Solar
  - Goal: 27-34 GW by 2050
  - Current programs:
- Wind (offshore and terrestrial)
  - Goal: 24 GW by 2050
  - Current programs: 5.6 GW authorized, of which 800 MW under construction and 3.6 GW out for bids
- Storage
  - Goal: 5.8 GW by 2050
  - Current program: 1,000 MWh by 2025, with 550+ MWh installed

