Electric Infrastructure Buildout

Backbone of a Sustainable Future


EVERSOURCE
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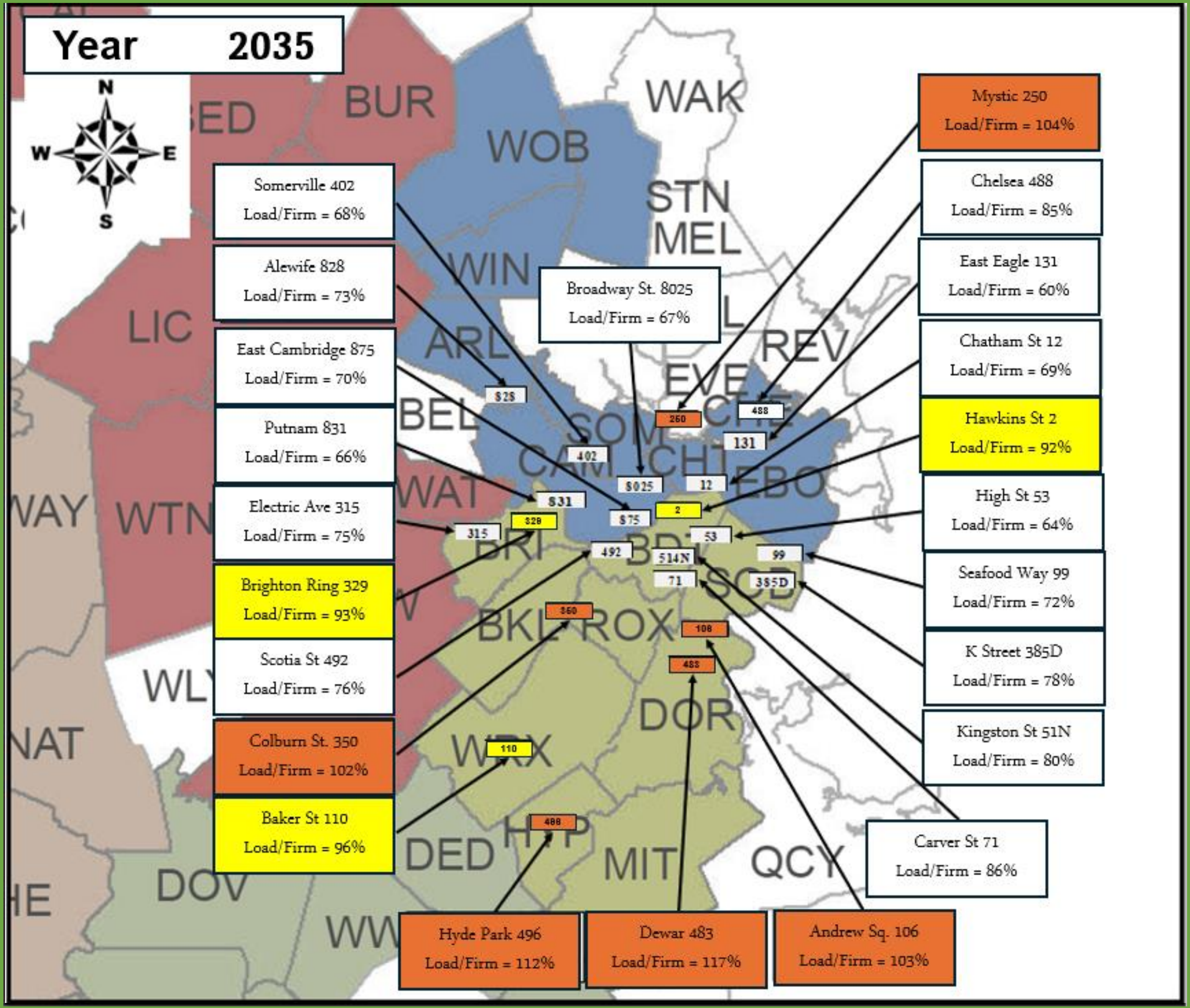
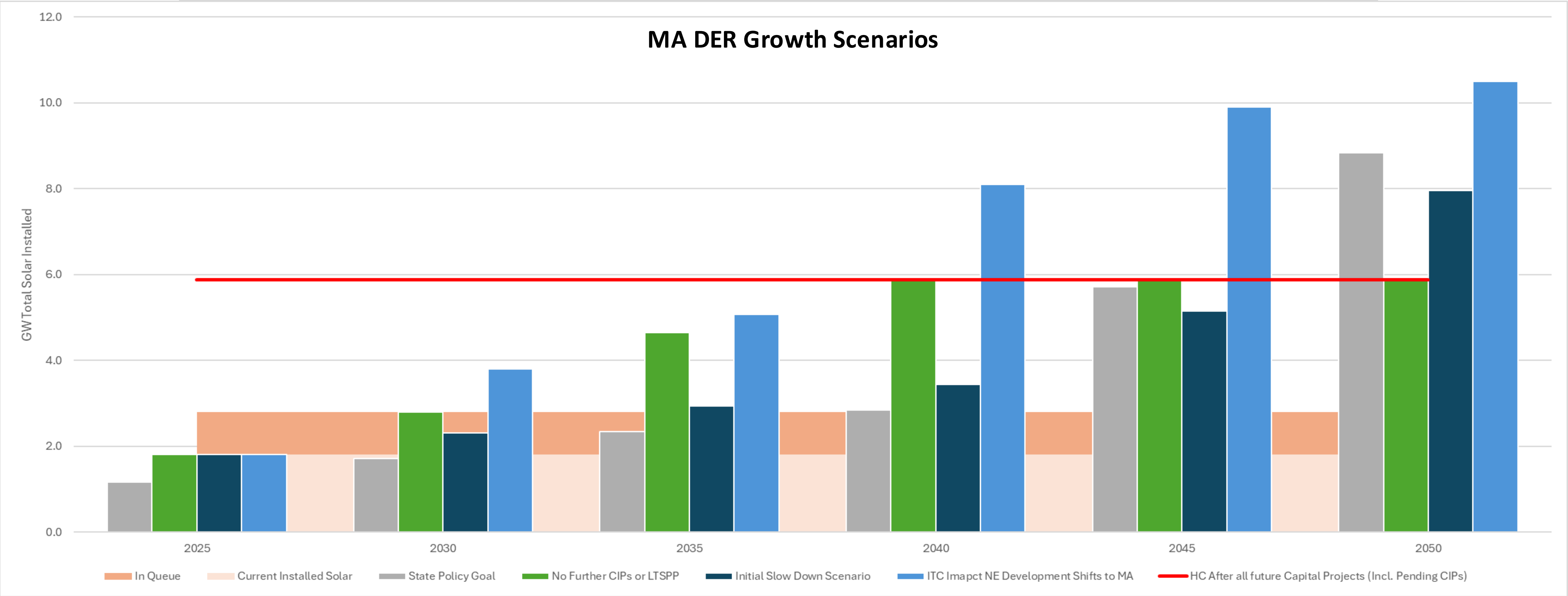
A closer look at Greater Boston Distribution System



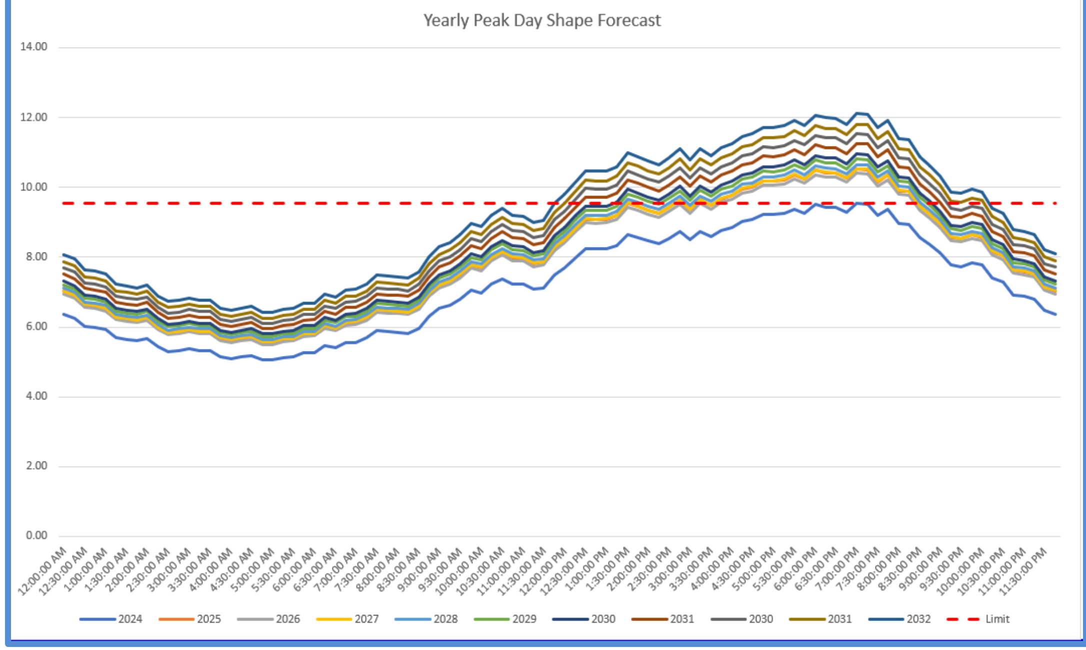
DER Solar Growth Trajectory

- The State Policy goal converts the states CECP to total installed solar numbers → We are currently ahead of these numbers
- The No Further CIPs or LTSPP scenario assumes a stable continuation of new service requests up to the available HC if all proposals are approved
- The Initial Slow Down Scenario models a slow down from current rates for the next 5 years due to federal policy changes and then follows the State Policy trajectory
- The ITC Impact New England Development Shifts to MA assumes a significant portion of New England solar development to shift to MA due to significant incentive hikes



Virtual Power Plant operations – Assessment of cost effectiveness

Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Number of days per year with a Need	0	2	2	2	3	3	6	8	12	20	29
Peak Constraint Power / MW	0.0	1.0	0.9	1.0	1.1	1.3	1.4	1.7	2.0	2.3	2.6
Peak Constraint Energy / MWh	0.0	3.1	2.5	3.1	3.8	4.8	5.8	8.2	10.4	12.8	15.7



ISSUES TO CONSIDER

1. **Common Definition:** What is a VPP?
2. **Temporal and Spatial Value:** What is the reliability need, at what time, where & how much is that worth?
3. **Rate Equity:** Who's getting paid and by whom?
4. **Public Policy feedback loop:** Assessment of overall market opportunity. Customer acquisition costs, and predictability/reliability

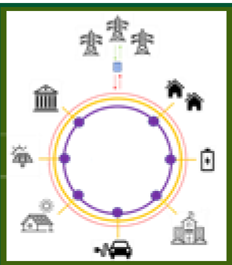
Estimated Conductor Replacement Cost: $1.1M

Long Term Storage Solution requires 3.4MW/36.7 MWh

1. Powerwall at 7kW/14kWh would require
   1. 486 Systems to match power requirement
   2. 2,621 Systems to match energy requirements
   3. Cost Range $8k - $14k → **$21M - $37.7M**
2. Grid Scale Solution @$476/kWh* → **$17.5M**

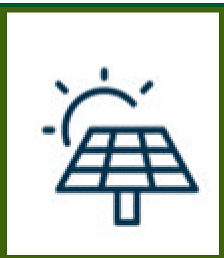
Grid Constraint
(Overload, poor power quality, ISO required local action)

1 → / ← 4



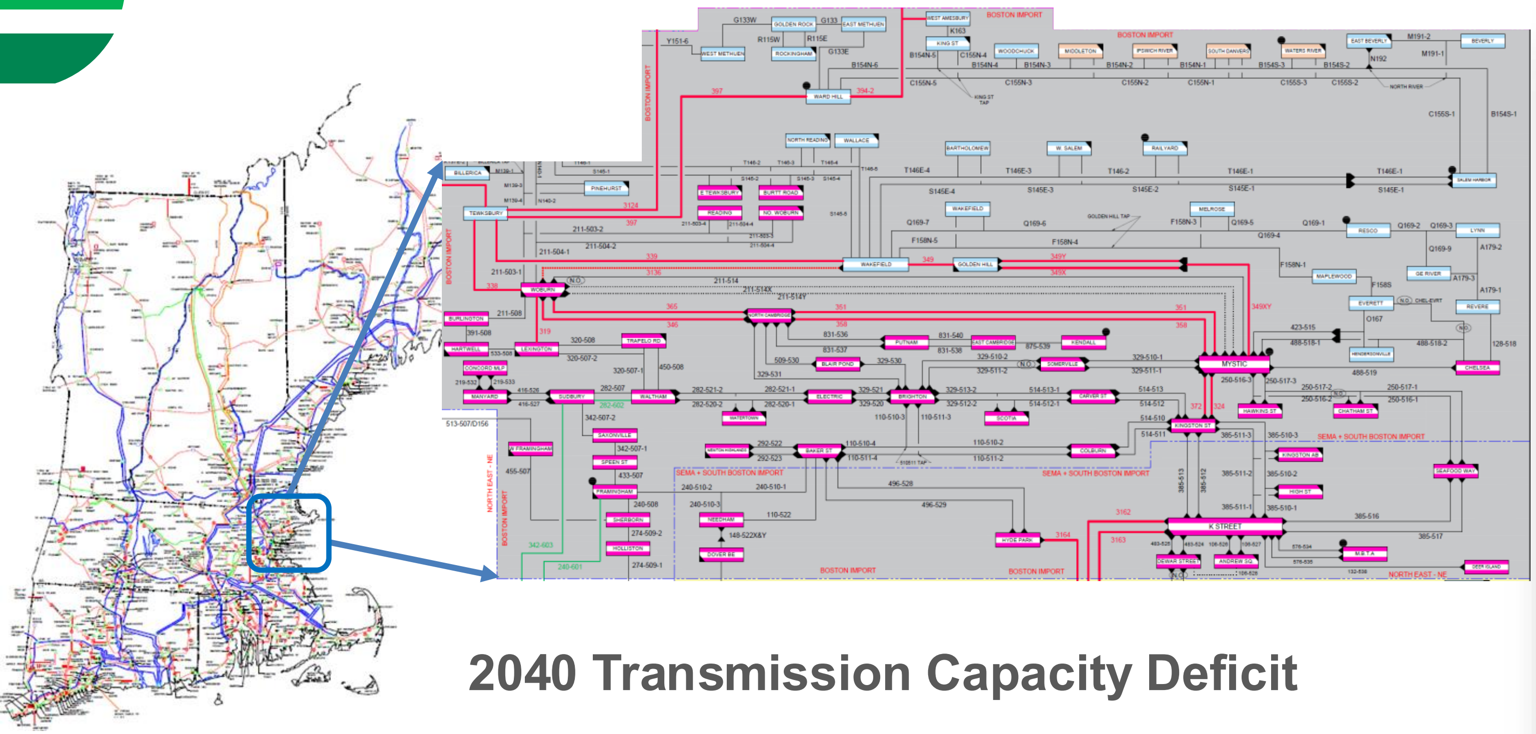
Eversource Control Room
(24x7 management of power flow to ensure reliable service)

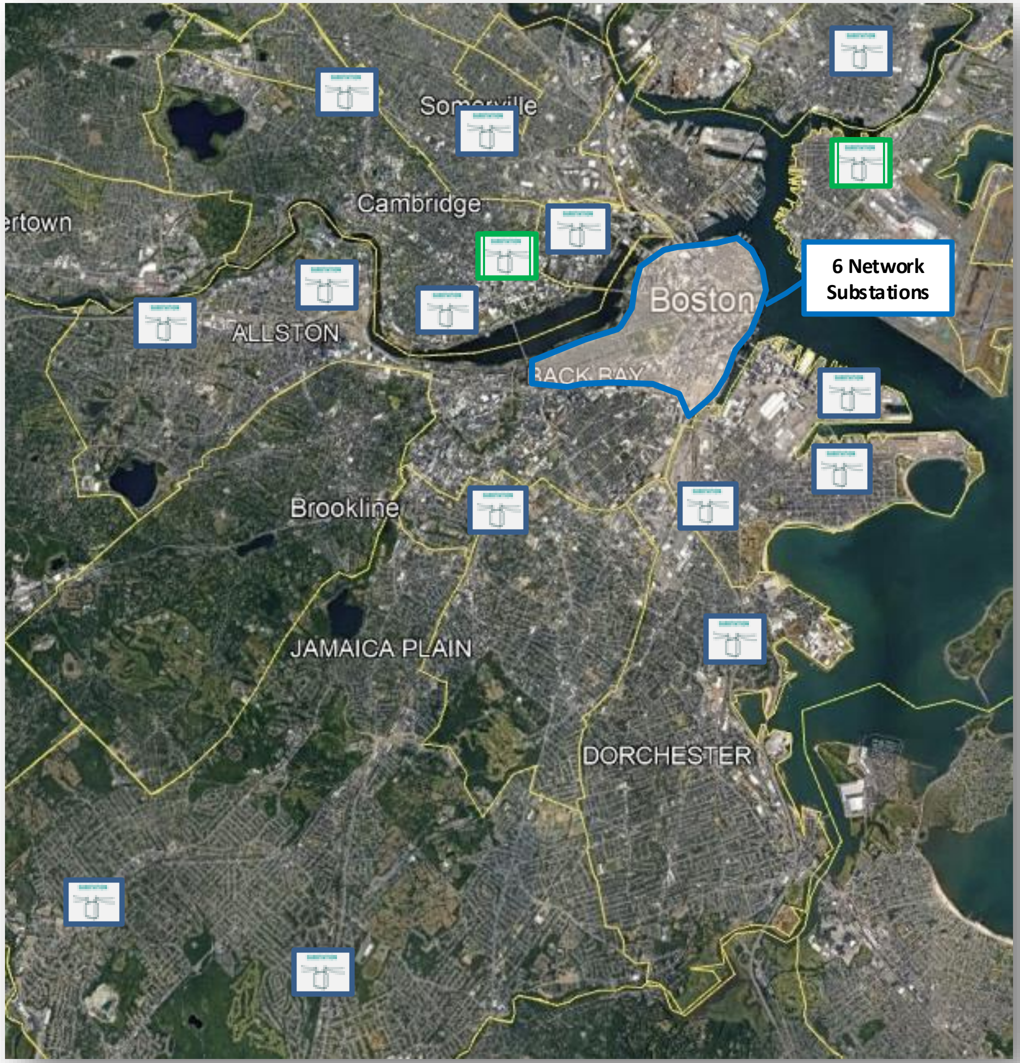
2 → / ← 3



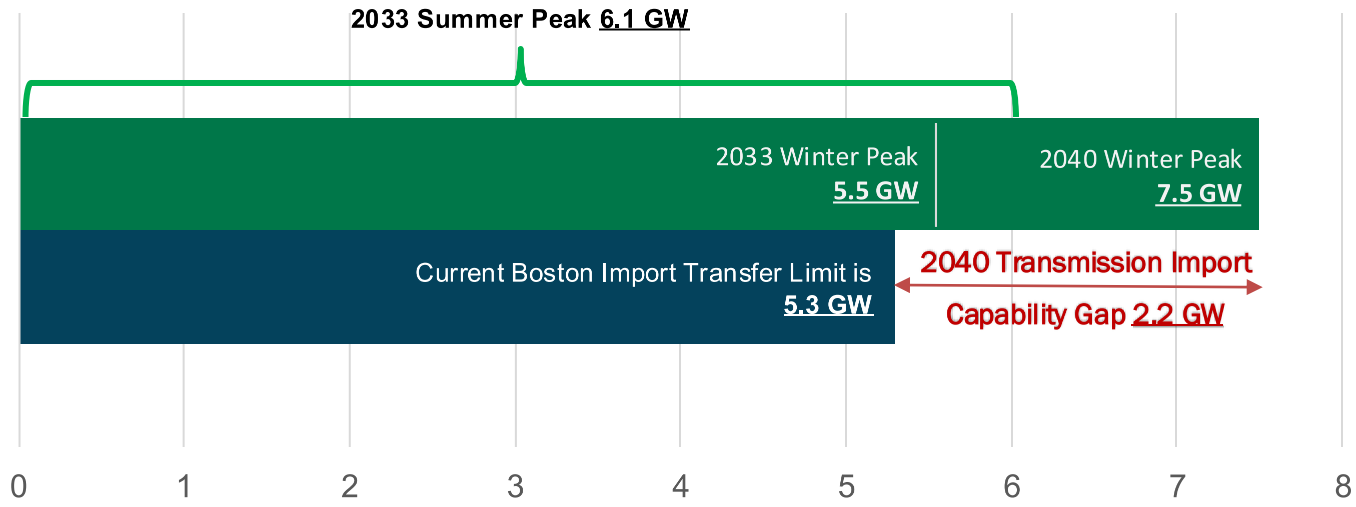
VPP
(Aggregated Solar, Batteries, Demand Response, Managed Charging)

TRANSMISSION & DISTRIBUTION SYSTEMS ARE INTERCONNECTED





2040 Transmission Capacity Deficit



The pace of generation interconnection with high likelihood of commercialization is far outpaced by retirements & demand additions – exacerbating Resource Adequacy in New England

- In the last five years, Eversource has **interconnected about 1 GW**, 800 MWs of which is Offshore Wind, with the remainder mostly Solar and Battery Storage
- At the same time, we've seen **retirement of 3 GW** of generation (Mystic, W. Springfield, Bridgeport, Norwalk Harbor, S. Meadows)

- There is no fuel diversity in future capacity additions with the highest commercialization likelihood – with about **1.4 GWs of Battery Storage** additions. Large scale solar projects face siting challenges
- Across our footprint, data center **interconnections range 3-5 GWs** – and have a flat load profile (not best suited to be supplied by BESS)