



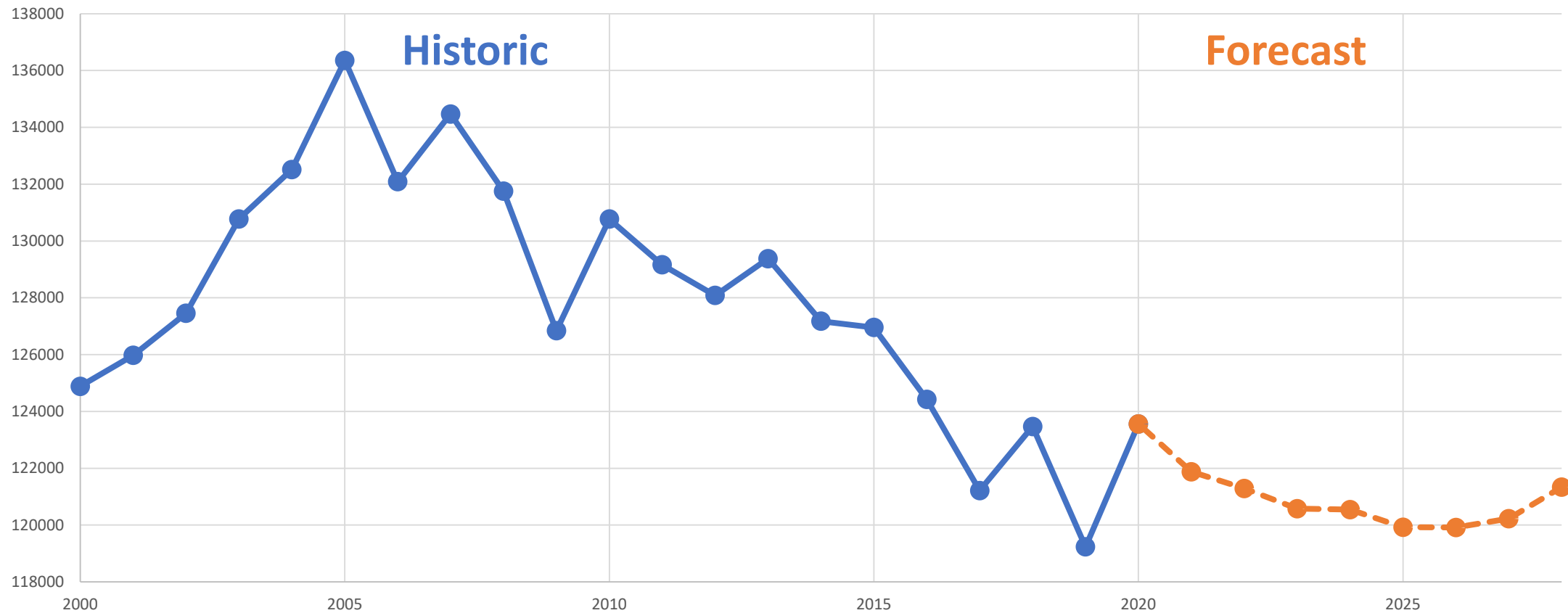
The Evolution & Future of New England's Grid

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Energy & Environment Bureau
Massachusetts Office of the Attorney General

Virtual Public "Teach-In" on Energy Markets | December 9, 2020



Regional energy consumption has declined since 2005 (GWh)



Sources:

Historic Data from ISO-NE "Net Energy And Peak Load Report": <https://www.iso-ne.com/isoexpress/web/reports/load-and-demand/-/tree/net-ener-peak-load>
Forecast from ISO-NE "Capacity, Energy, Loads, and Transmission Report" 2020, <https://www.iso-ne.com/system-planning/system-plans-studies/celt/>



Annual peak consumption has also declined since 2005 (MW)

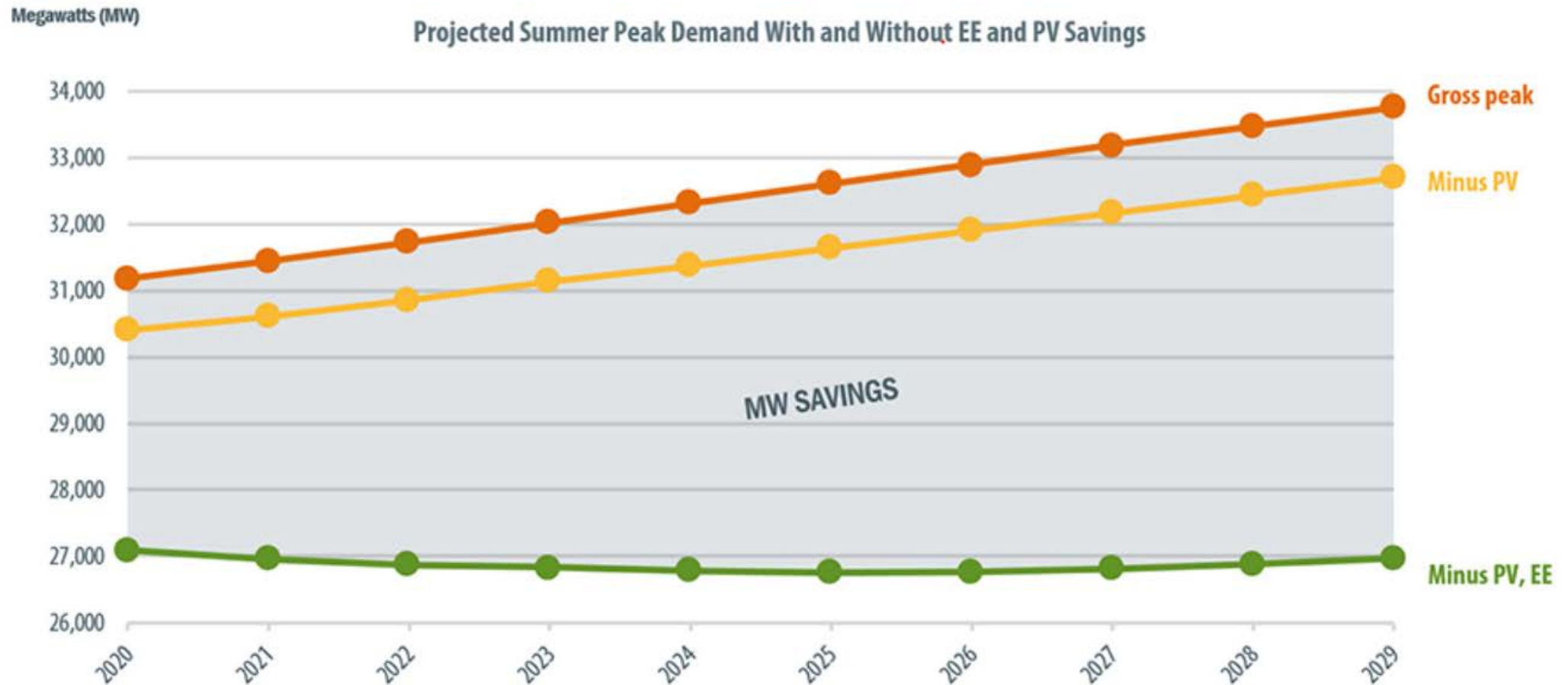


Sources:

Historic Data from ISO-NE "Net Energy And Peak Load Report": <https://www.iso-ne.com/isoexpress/web/reports/load-and-demand/-/tree/net-ener-peak-load>
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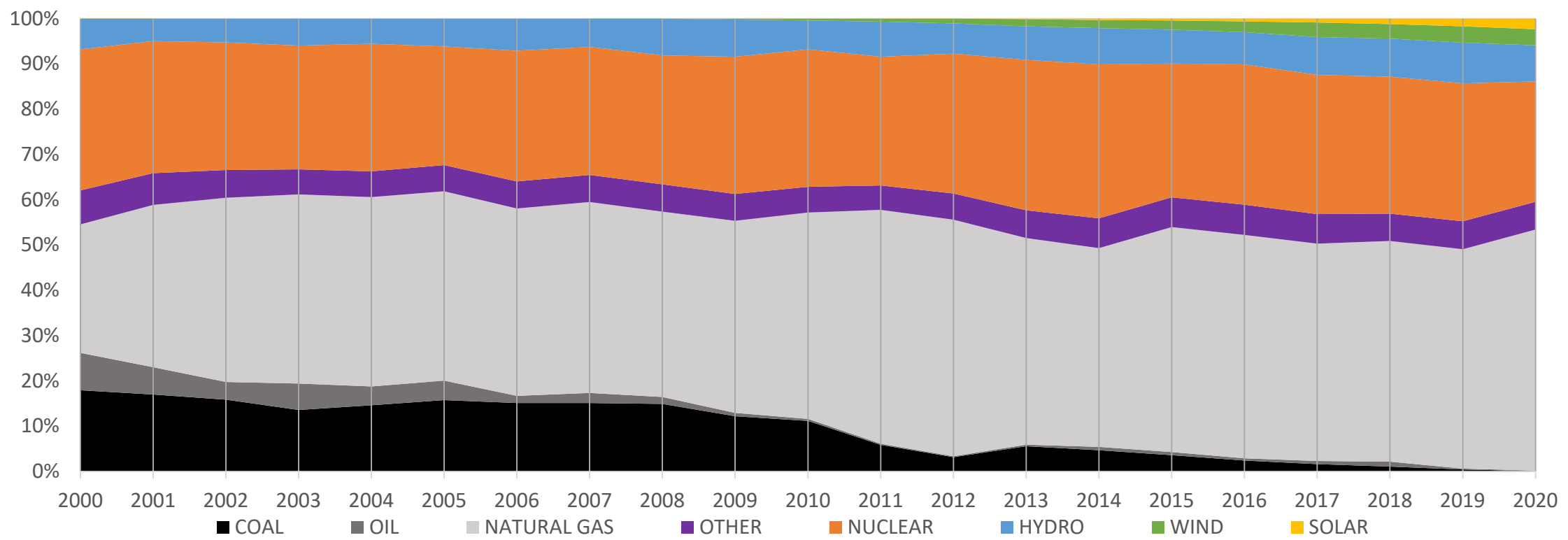
Why? Energy efficiency has been keeping demand in check.



Source: ISO-NE, <https://www.iso-ne.com/about/key-stats/electricity-use>



Over the past 20 years, coal and oil generation has all but disappeared...

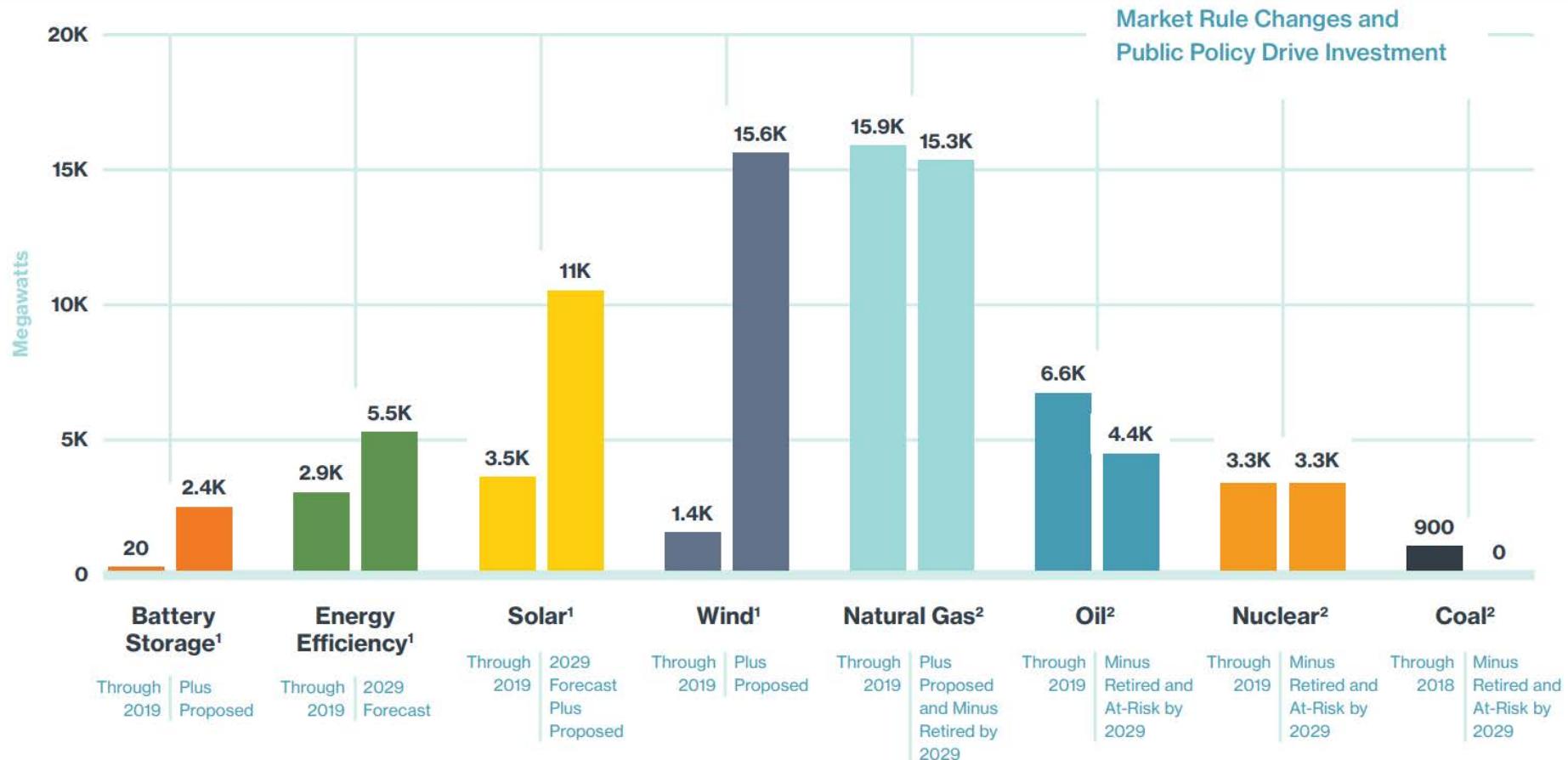


Source: ISO-NE

ISO-NE Annual Generation by Source (as a % Total Generation)



...and huge increases in wind, solar, and storage are expected over the next decade.

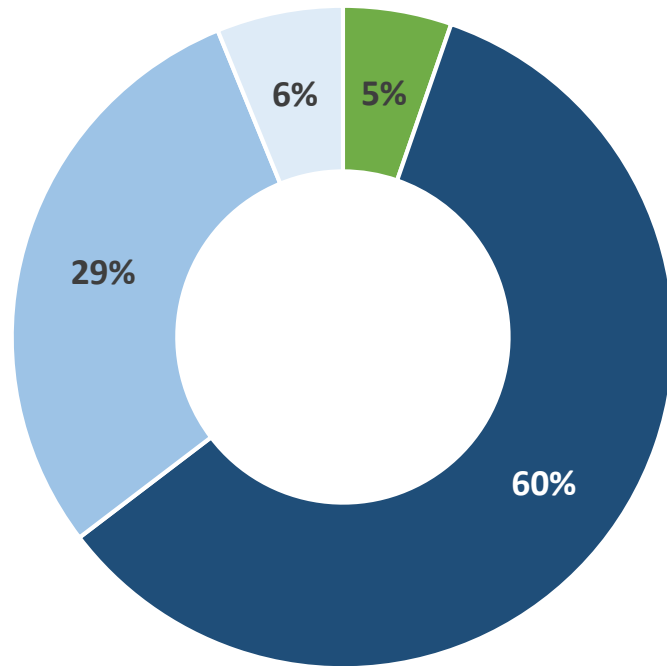


Source: ISO-NE, Regional Energy Outlook, https://www.iso-ne.com/static-assets/documents/2020/02/2020_reo.pdf



Deep dive on wind & solar

14 GW of Proposed Wind Development



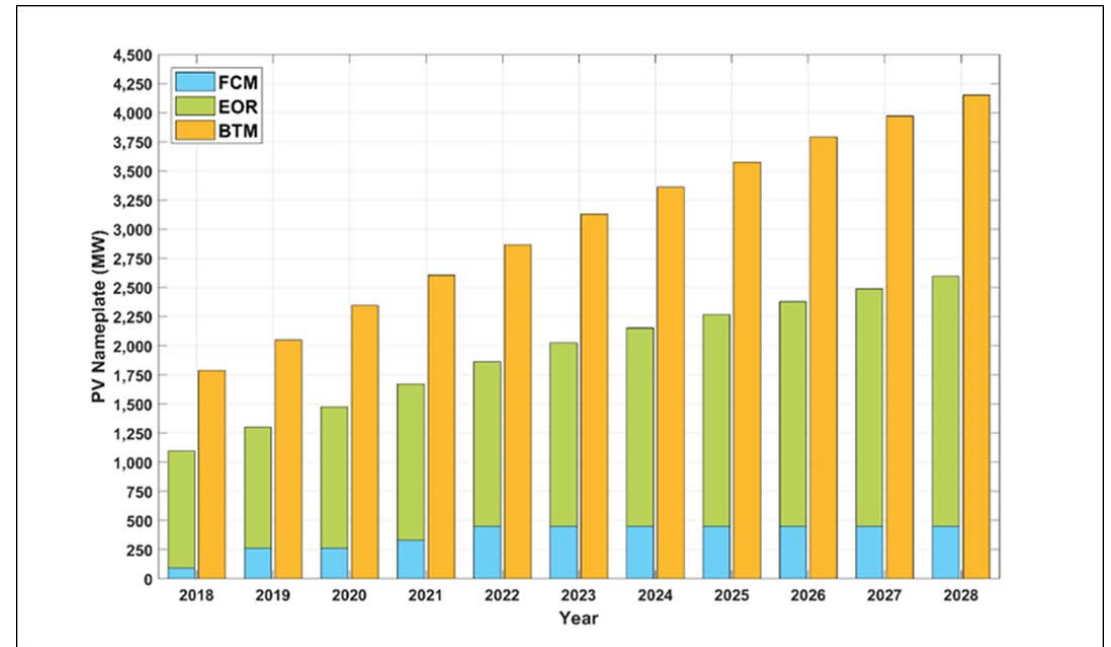
■ Onshore Wind

■ Offshore - MA

■ Offshore - CT

■ Offshore - RI

ISO-NE expects 8 GW of Solar over the next decade



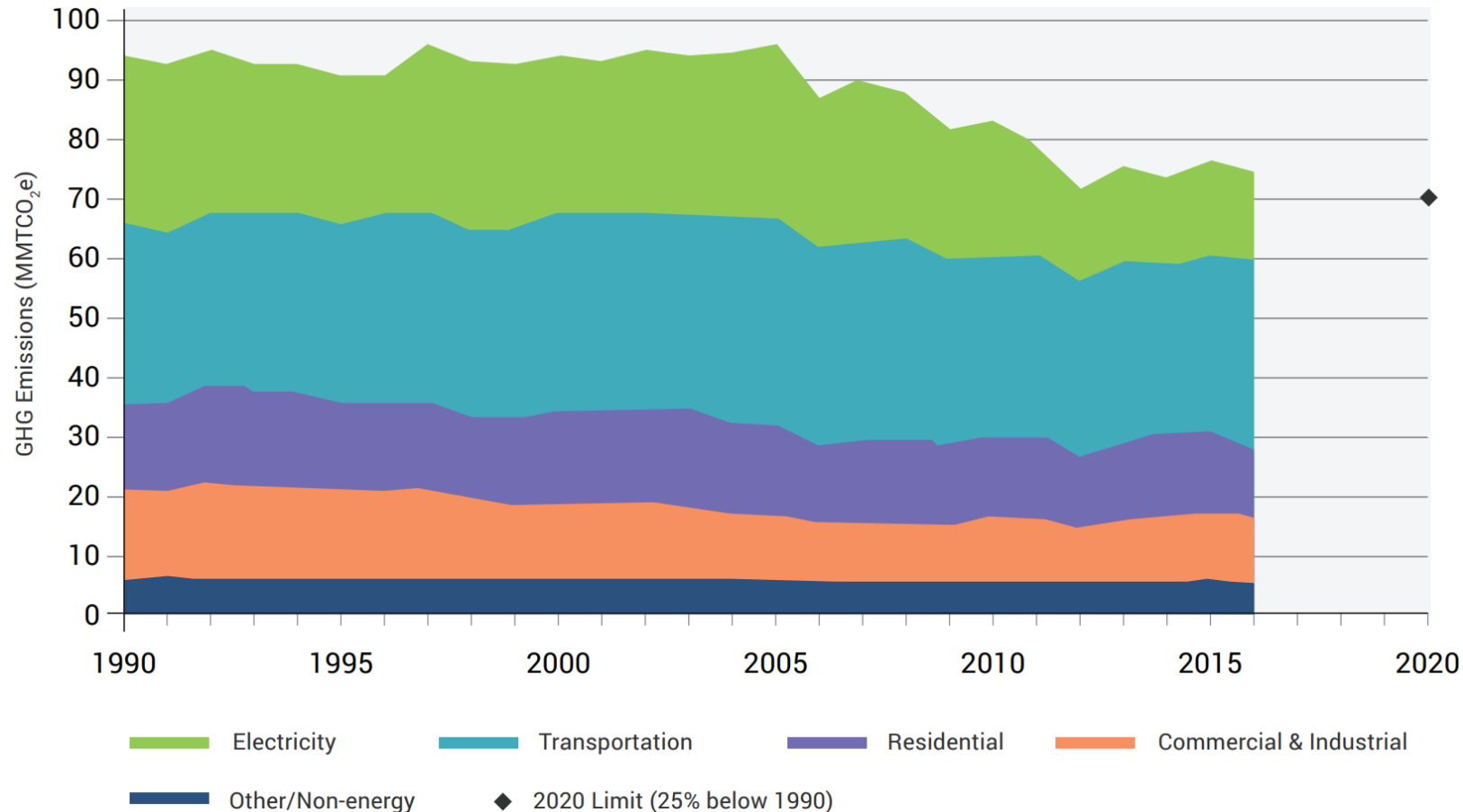
Sources:

Wind Data: https://www.iso-ne.com/static-assets/documents/2020/02/2020_reo.pdf

Solar Data: ISO-NE Regional System Plan , Figure 3.2



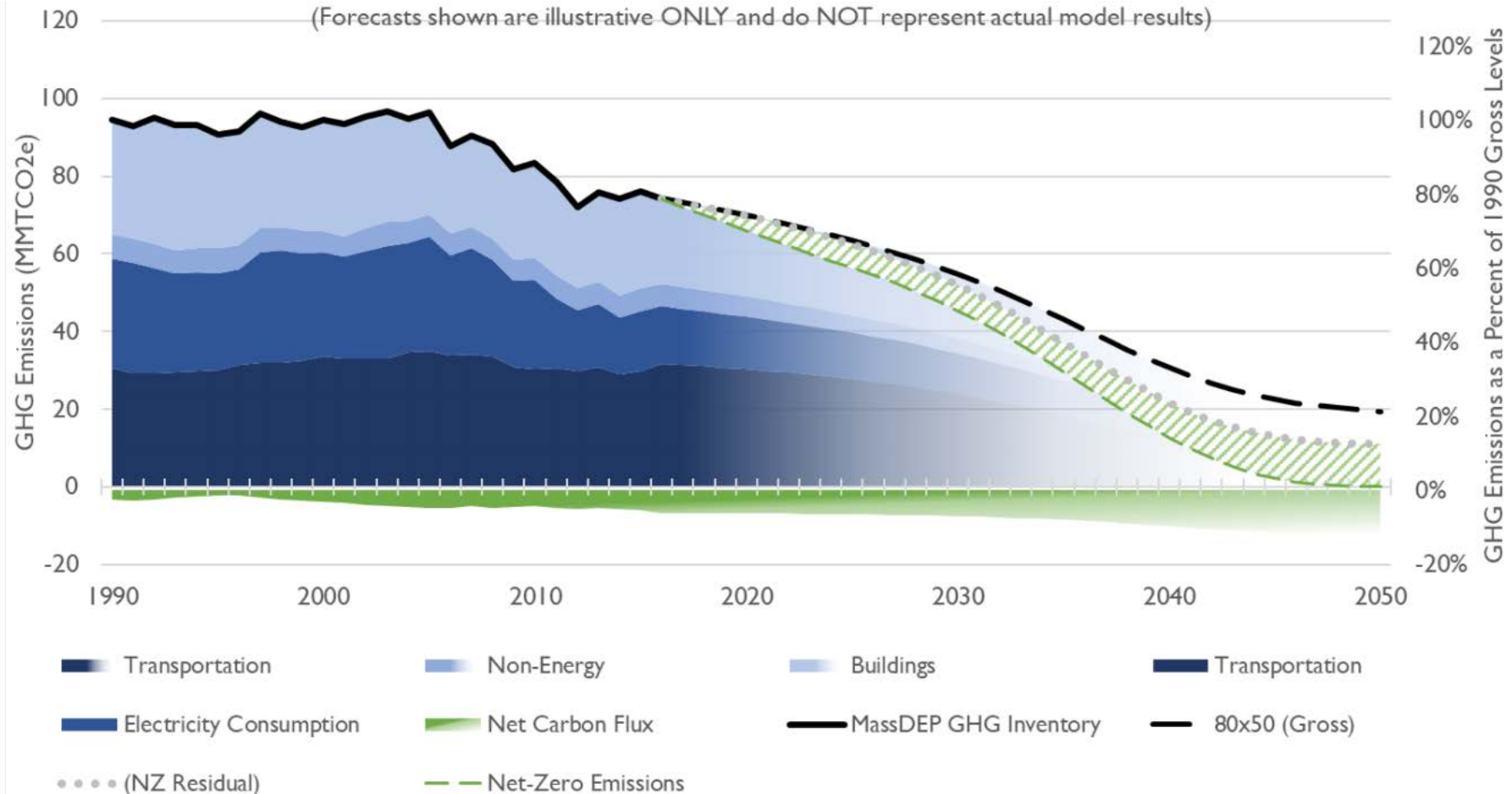
Power emissions have fallen by half, but heating & transportation remain high.



Source: Massachusetts Global Warming Solutions Act 10-Year Progress Report <https://www.mass.gov/doc/gwsa-10-year-progress-report/download>



So, there is so much more to do.

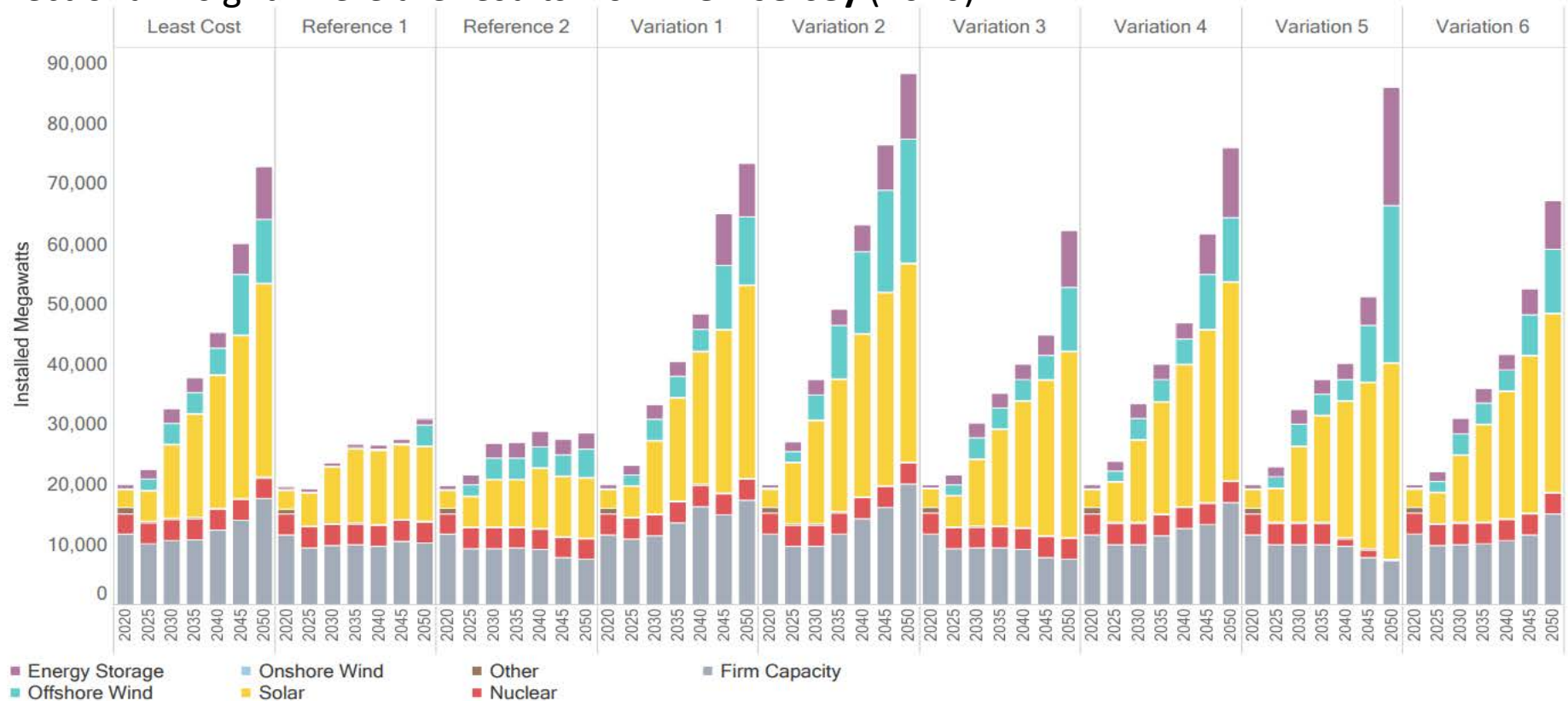


Source: MA EEA, <http://www.raabassociates.org/Articles/Theoharides%20Presentation%209.25.20%20FINAL.pdf>



Region will need to build GWs of wind/solar every year, now to 2050, to meet goals.

Pathways for MA will be coming out soon but results from other Northeastern states provide directional insight. Here are results from **New Jersey (2020)**



Source: https://nj.gov/emp/pdf/New_Jersey_2019_IEP_Technical_Appendix.pdf Section 2.5.2 Fig 5.



Thank You!