

# Overview of Assumptions

# Assumptions Overview

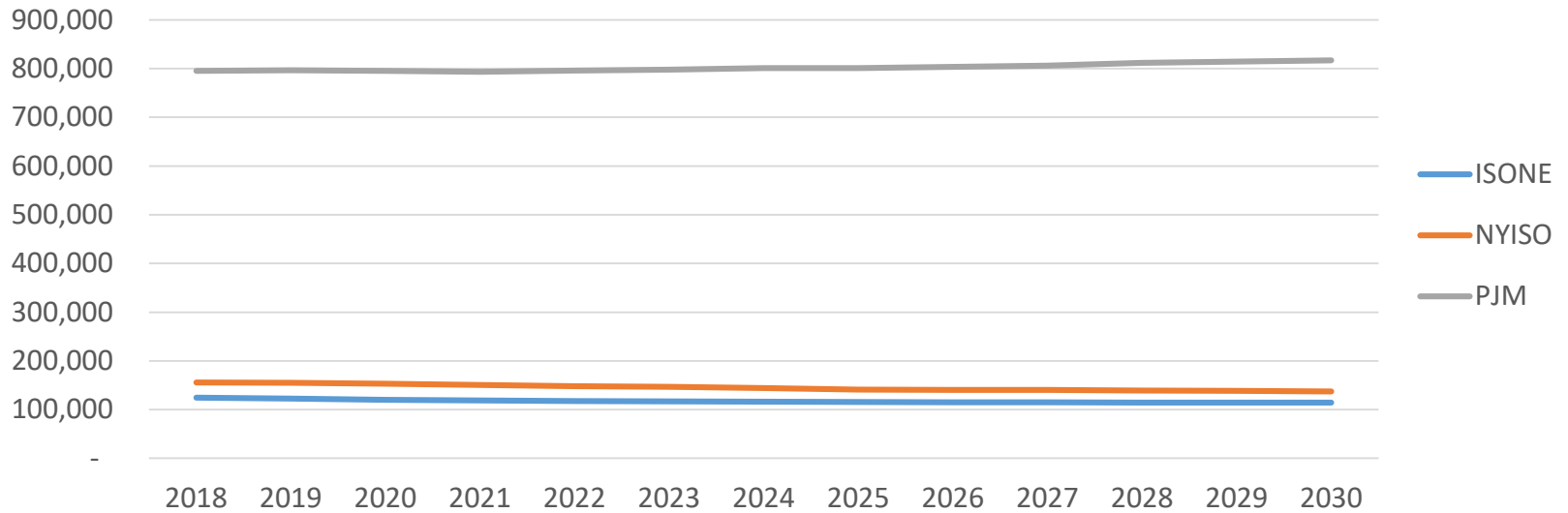
- The following slides summarize the sources for key assumptions used in the analysis
- The NJ BPU and DEP specified the assumptions and scenario design for the analysis or adopted assumptions already developed by the RGGI states
  - Projections are based on assumptions in place as of October 1, 2018
  - The assumptions have been updated from the 2017 RGGI Model Rule analysis for all states

# Assumptions (1)

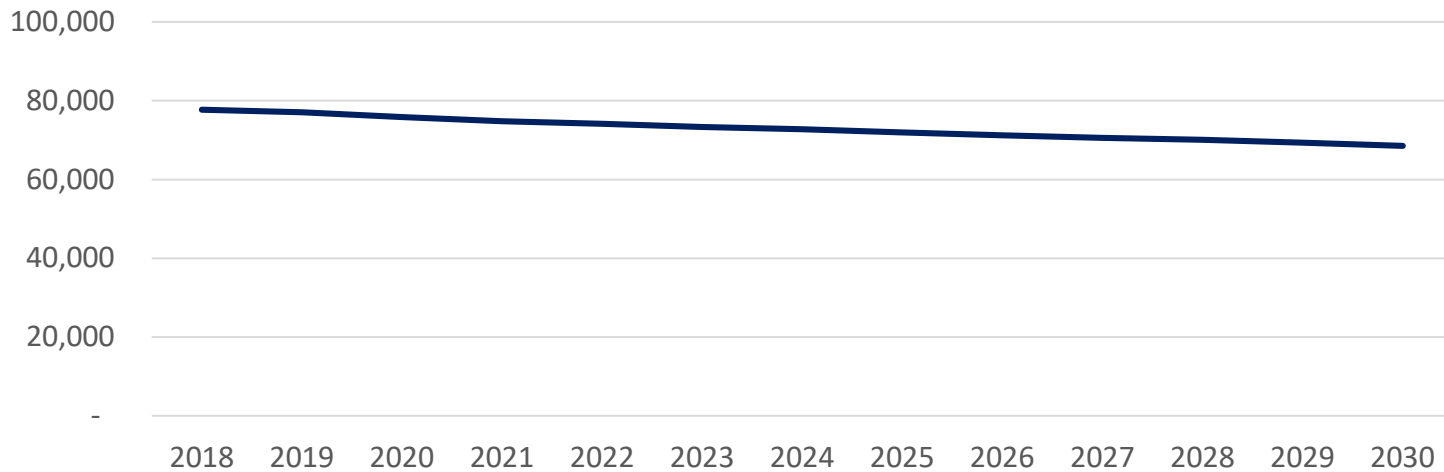
Assumption	Source
IPM Reporting Years	Reporting years for the IPM model: 2018, 2020, 2022, 2025, 2028, 2030
RGGI Demand - Load and Peak Growth	<p>ISONE - 2018 CELT Net PDR</p> <p>NYISO – Includes adjustments for EE, PV, ZEV, HP, and Non-PV BTM DG</p> <p>PJM - PJM 2018 Load Forecast with incremental EE adjustments in VA and NJ to account for state legislative mandates. Incremental BTM Solar adjustments were also made in NJ.</p> <p>Rest of US: ISO (as available) or EIA AEO 2018 regional growth rates</p>
Gas Prices at Henry Hub	Average of 2018 AEO Reference and High Gas Resource Cases
Build Costs - Renewables	EPA v6 adoption of NREL (2017 Annual Technology Baseline Study) capital costs

# Assumption: Electricity Demand

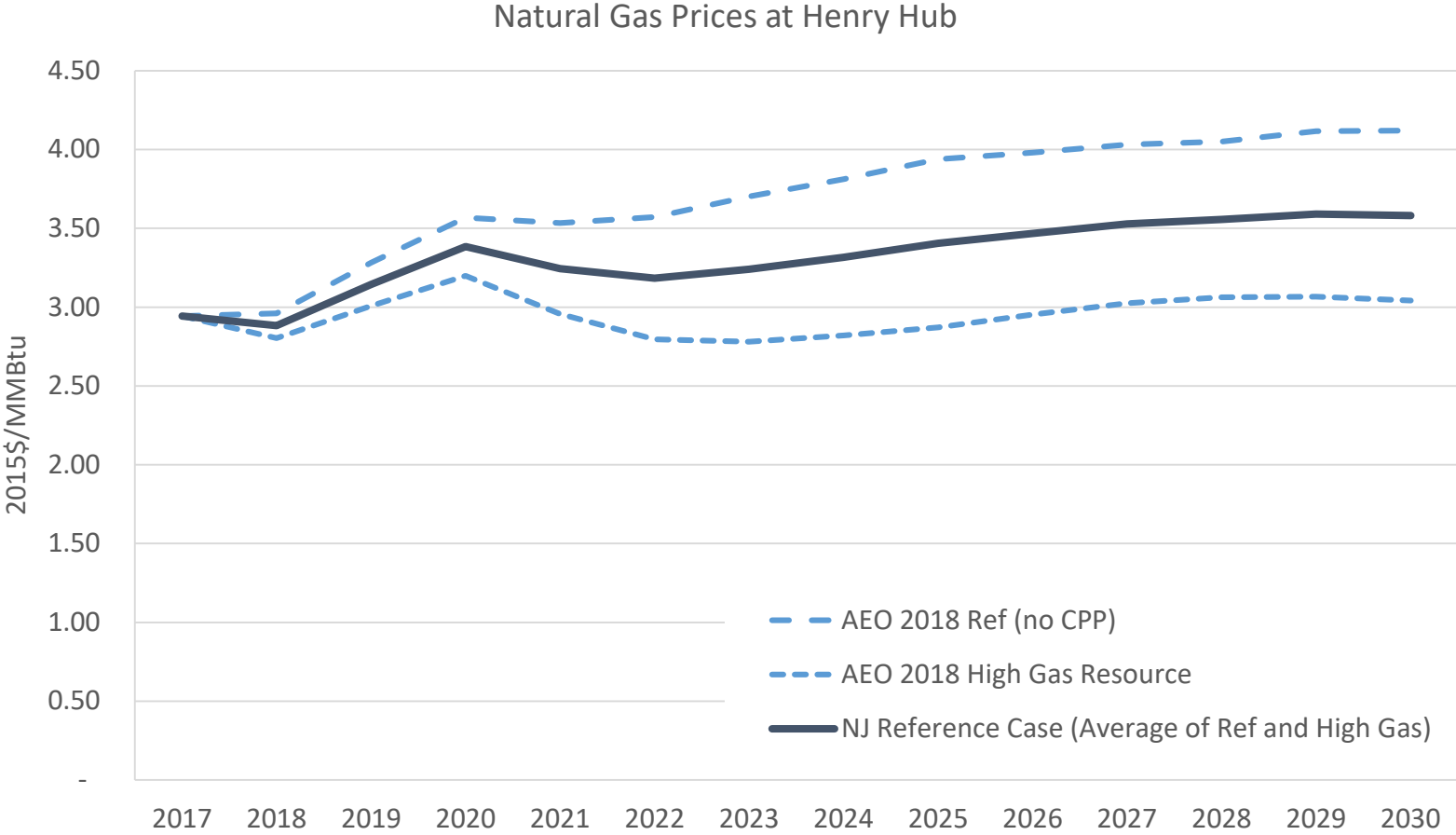
Electricity Demand by ISO (GWh)



New Jersey Electricity Demand (GWh)



# Assumption: Natural Gas Prices



## Assumptions (2)

Assumption	Source
Minimum Generation - NY	<p>Assume minimum run time and oil burn for dual-fuel units in Zones J and K based on input from NYSERDA.</p> <p>The total MWhs of minimum generation declines over time consistent with the decline in load for each of the respective zones, maintaining the share of minimum generation as a percentage of load.</p>
Minimum Generation - PJM (DE and MD)	2017 historical generation for coal units as minimum generation requirement for 2018.
Minimum Generation - ISONE (MA and NH)	2012-2017 average historical generation for coal and oil/gas units as minimum generation requirement for 2018.

# Assumptions (3)

Assumption	Source
Canada Carbon Price	Canadian federal backstop price
Firm Capacity Changes - NYISO	Based on input from NYSERDA, NYISO and ICF
Firm Capacity Changes – PJM (DE, MD, NJ and VA)	Based on input from the States, PJM ISO and ICF
Firm Capacity Changes – ISO-NE	Based on input from the States, ISO-NE and ICF
Offshore Wind Requirements	Based on input from the States and expectations based on state policies/announcements  NY: 2,400 MW by 2030 MA: 1,600 MW by 2026 CT: 200 MW by 2024 RI: 400 MW by 2024 MD: 368 MW by 2022 NJ: 3,500 MW by 2030 VA: 12 MW by 2021
Storage	Based on publicly announced storage targets as well as input from the States
Firm Transmission	Based on input from the States; includes a 1,090 MW new line from Quebec to ISONE in 2022

# Assumptions (4)

Assumption	Source
Nuclear Lifetime	<p>60 years, or as planned by owners, based on input from the States <u>Retirements in the modeling time horizon in NYISO, ISO-NE and the RGGI PJM States (MD, DE, NJ, VA):</u></p> <p>Oyster Creek - 2018            Pilgrim – 2019            Indian Point 2 - 2020            Indian Point 3 - 2021            Ginna &amp; Nine Mile Point 1 - 2030</p>
Renewable Portfolio Standards	<p>RPS targets met in New England and PJM with state-level RPS implementation</p> <p>Fulfillment of NY Clean Energy Standard mandate assumed based on renewable buildout provided by NYSERDA</p>
State Environmental Policies	<p>Existing requirements provided by state agencies</p> <p>No coal generation in NYISO after 2020</p>
Federal Environmental Policies	<p>Mercury and Air Toxic Standards (MATS)</p> <p>Disposal of Coal Combustion Residuals from Electric Utilities (Ash)</p> <p>Cross-state Air Pollution Rule (CSAPR)</p> <p>Federal Production Tax Credit / Investment Tax Credit (PTC/ITC)</p>