

# 2022 Long Term Forecast Assumptions

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**LTF/ESPWG**

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# Topics

- **Electric Vehicles**
- **Energy Efficiency**
- **Energy Storage**
- **Other Impacts**

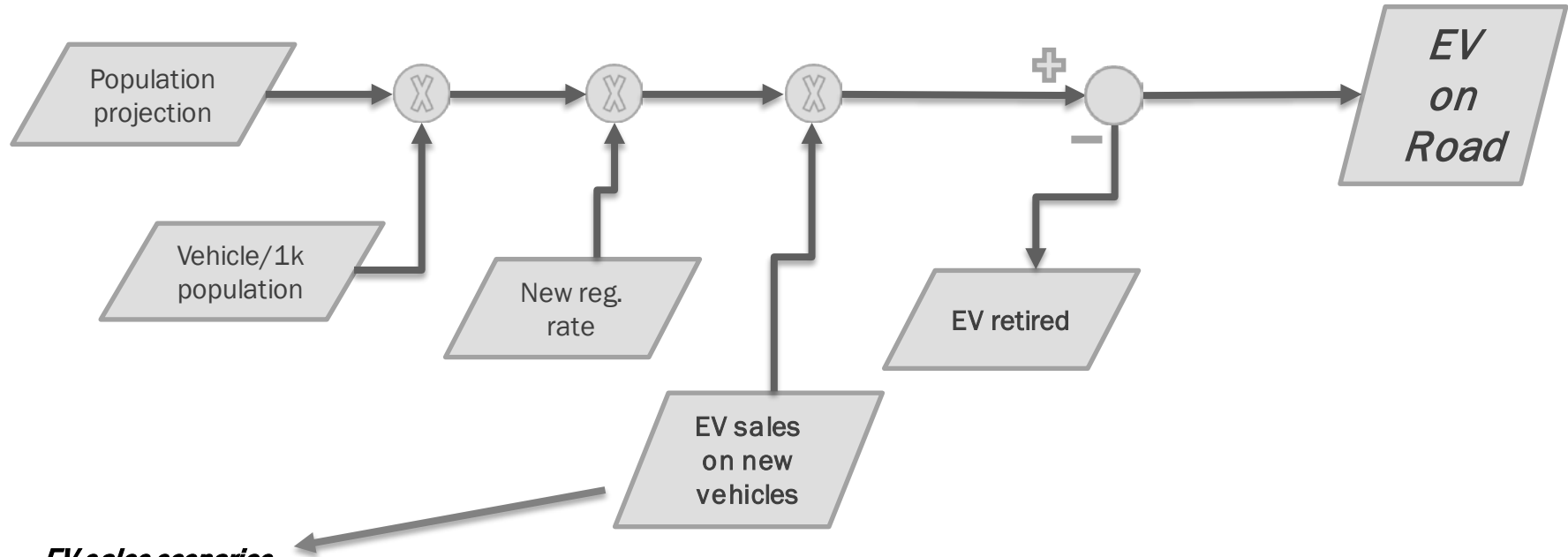
# Electric Vehicles

# EV Forecast

## ■ Base Assumptions

- The key assumption is the legislation signed by the Governor
  - All new Light Duty Vehicle (LDV) sales by 2035 to be zero emission vehicle (ZEV)
  - All new Medium and Heavy Duty (MHD) vehicles sales by 2045 to be ZEV
- The stock forecast was made in three categories – LDV, MHD vehicles and Buses
- MHD vehicles ZEV target was used for the Bus stock forecast
- A general framework was applied across three categories

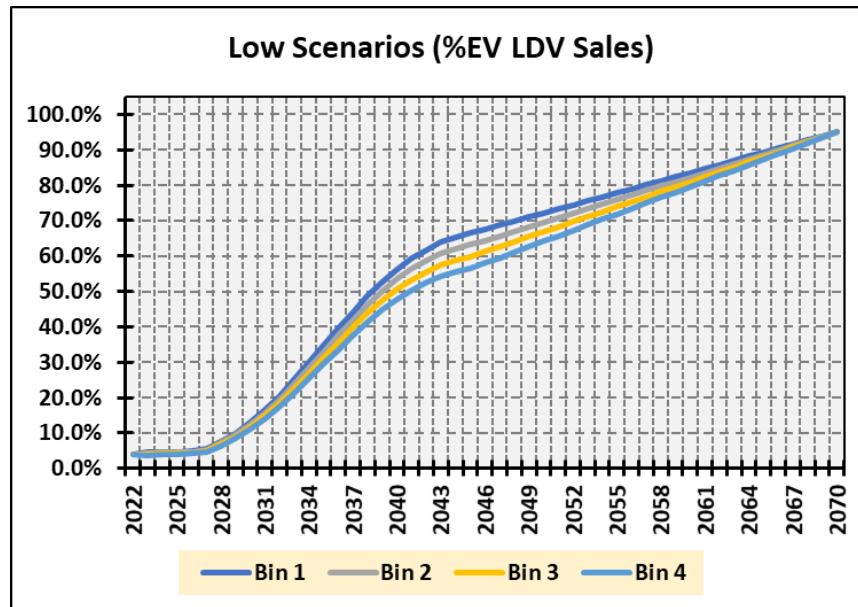
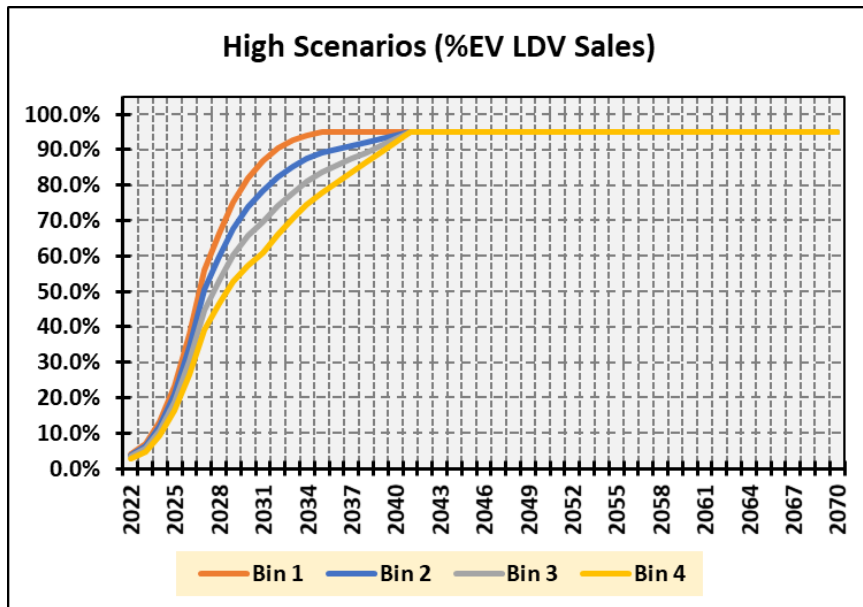
# Stock Forecast Process Flow Chart



## EV sales scenarios

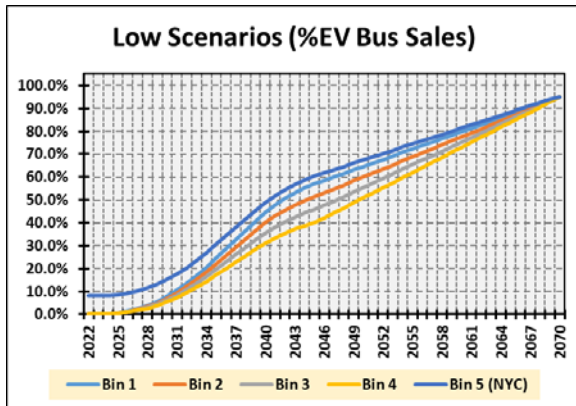
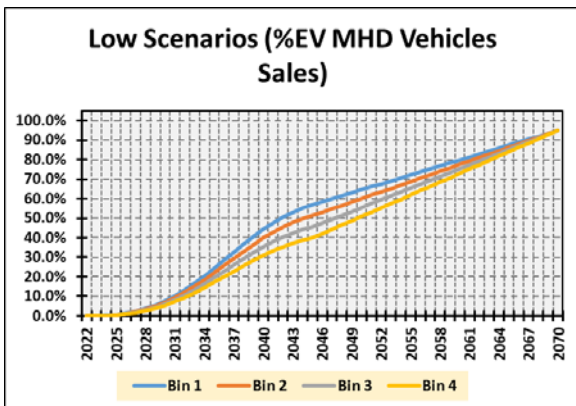
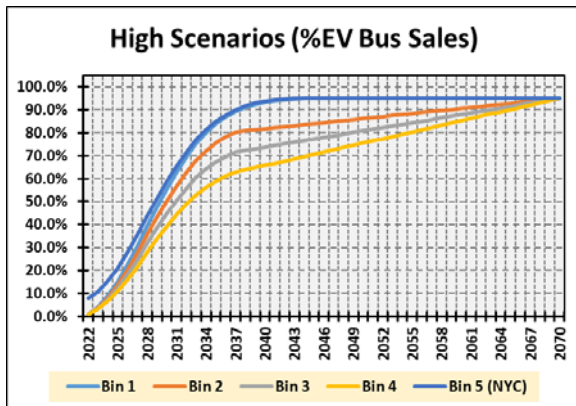
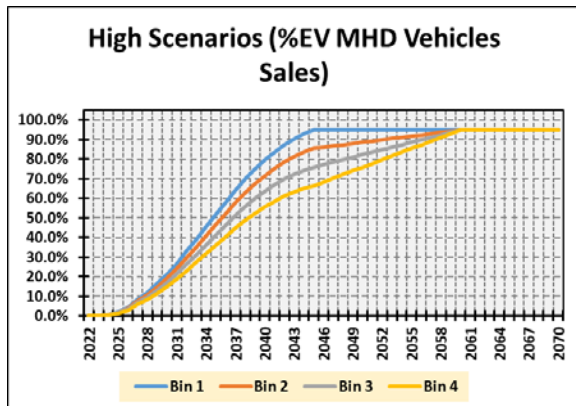
- Two scenarios were created (high and low) across all vehicle classes
- Further separations within the scenarios were created to apply differential rates at different geographic locations
- The high scenario nearly reaches the targets set by the legislation (95%)
- The low scenario reaches 30-35% of the 2035 LDV target, and 40-50% of the 2045 MHD target

# EV Sales Scenarios



- Bins 1 - 4 reflect varying saturation paths across different regions
- Bin 1 reflects areas with quicker saturation, such as Westchester and Nassau counties
- Bin 4 reflects areas with slower saturation, primarily in more rural areas of the state
- Bin assignment was based on current EV penetration and charging infrastructure

# EV Sales Scenarios



- Bins 1 - 4 reflect varying saturation paths across different regions
- Bin 5 represents the NYC electric bus saturation, which is currently well ahead of the rest of the state

# Energy Efficiency

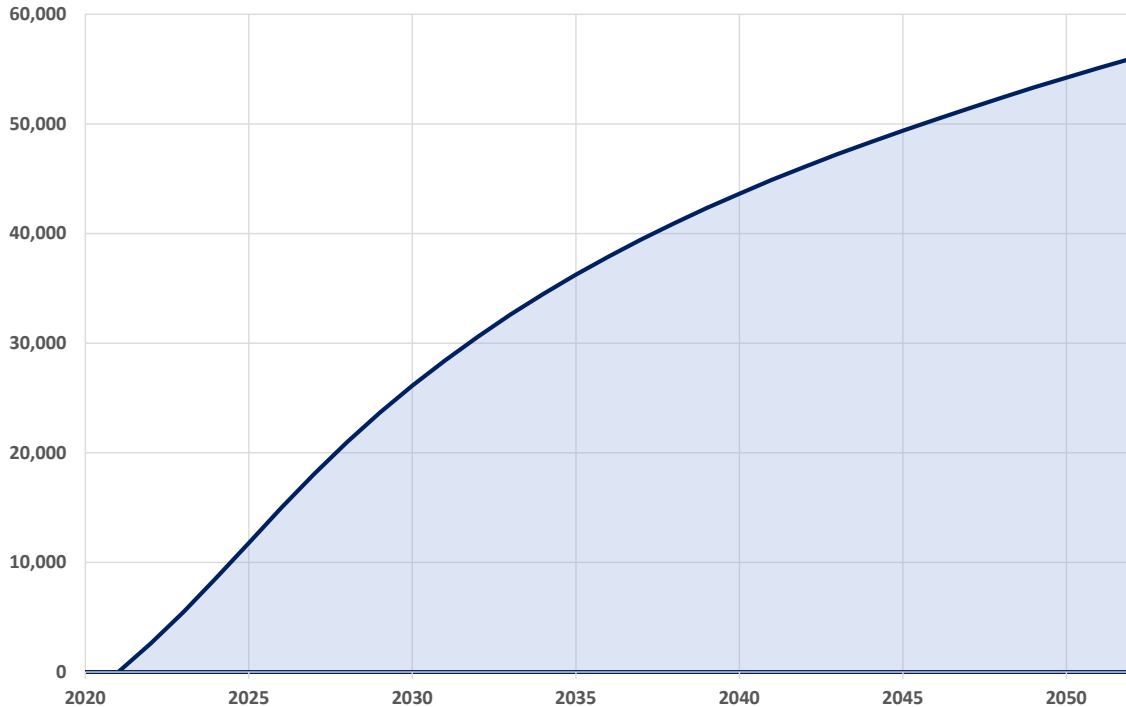


# Energy Efficiency and Codes & Standards Impacts

- **Primary data sources for historical energy savings estimates:**
  - Utility ETIP and Clean Energy Dashboard scorecards
  - EIA annual energy efficiency reporting data
  
- **Primary forecast considerations:**
  - Programmatic energy savings driven by State energy efficiency policy targets
  - Building codes and appliance efficiency standards
  - Future heating and cooling load reductions from building shell improvements

# Preliminary Energy Efficiency and Codes & Standards Forecast

Annual Energy Reductions Relative to 2021 - GWh



Seasonal Coincident Peak Reductions\* - MW

Year	Summer Peak	Winter Peak
2025	1,700	1,100
2030	3,800	2,500
2035	5,400	3,800
2040	6,600	5,200
2045	7,400	6,600
2050	8,000	8,000

\* Relative to 2021

These are preliminary estimates and subject to revision prior to the 2022 Gold Book forecast

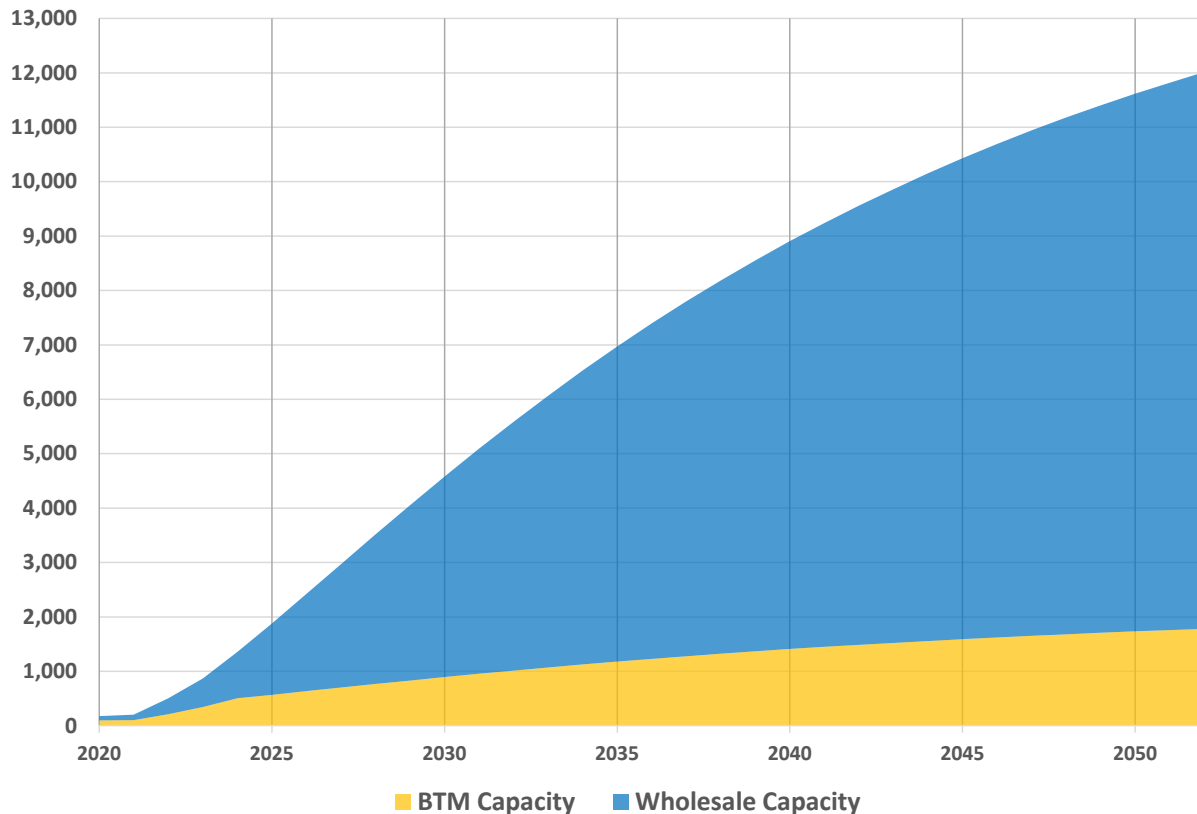
# Energy Storage

# Energy Storage Forecast

- Storage capacity forecast includes both wholesale market and behind-the-meter (BTM) storage
- Wholesale storage forecast considers storage resources listed on the NYISO Interconnection Queue
- BTM storage forecast considers storage resources included in the NYSERDA and Standardized Interconnection Requirements (SIR) databases
- Both wholesale and BTM storage resources have relatively small net annual electricity consumption due to round trip efficiency of the charging/ discharging cycle
- A portion of installed BTM storage is expected to reduce system peak demand by injecting energy into the grid during the summer and winter peak hours

# Preliminary Energy Storage Forecast

Energy Storage Nameplate Capacity (MW)



Seasonal Coincident Peak Reductions\* - MW

Year	Summer Peak	Winter Peak
2025	70	60
2030	270	210
2035	420	330
2040	560	450
2045	680	540
2050	800	640

\*Behind-the-Meter Storage

These are preliminary estimates and subject to revision prior to the 2022 Gold Book forecast

# Other Forecast Components

# Other Long-Term Forecast Components

- **BTM Solar** – annual energy and seasonal peak reductions from behind-the-meter solar. Similar methodology to last year, which looked at four separate installation size categories. The principal change from last year is consideration of the new 10 GW by 2030 state policy target, which follows the prior target of 6 GW installed by 2025.
- **Distributed Generation** - annual energy and seasonal peak reductions from non-solar and storage distributed generation. These include relatively minor impacts from combined heat and power (CHP), anaerobic digesters, fuel cell facilities, and other resources.
- **Large Loads** - annual energy and seasonal peak increases due to the projected timelines of interconnecting large load projects.

# Questions?



# Our Mission & Vision



## Mission

Ensure power system reliability and competitive markets for New York in a clean energy future



## Vision

Working together with stakeholders to build the cleanest, most reliable electric system in the nation