Appendix A. Methodology and Historical Data Revisions

A.1. U.S. Energy Information Administration Revisions and Updates

Each year, the U.S. Energy Information Administration (EIA) issues its State Energy Data System (SEDS) estimates, which form the foundation of New York State Research and Development Authority's (NYSERDA) *Patterns and Trends* report. Each issue presents an opportunity for EIA to revise data and update methodology in response to changes in the fuels and energy types used across the U.S. These adjustments often apply to historical data, resulting in year-to-year variations in the *Patterns and Trends* datasets.

A detailed log of all EIA data and methodology changes is available at: EIA Data Changes (https://www.eia.gov/state/seds/seds-data-changes.php?sid=NY#2023).

In 2023, EIA revised the following data and related historical datasets:

- **Natural gas:** EIA revised transportation sector natural gas prices from 2013 onward, using a combination of EIA survey data and price datasets from the U.S. Department of Energy Alternative Fuels Data Center's quarterly *Clean Cities and Communities Alternative Fuel Price Reports*.
- **Distillate fuel oil:** EIA revised consumption, prices, and expenditures datasets from 2009 onward following updates to biofuels blending and product-supplied accounting. Based on multiple monthly and annual datasets, EIA developed new SEDS estimates.
- **Biodiesel:** EIA updated the consumption data for all sectors from 2001 onward based on published and unpublished EIA surveys and public sources. From 2013 onward, EIA based residential and commercial consumption data on State public records and blended laws.
- **Wood:** EIA updated residential consumption data for 2020 and, moving forward, will calculate estimated consumption using several datasets.

EIA also revised datasets not included in the *Patterns and Trends* report, including electric vehicle charging infrastructure and carbon dioxide emissions from energy consumption datasets.

NYSERDA uses a fossil fuel equivalency approach to convert electricity generation from noncombustible renewable energy sources into energy units (trillion British thermal units, or TBtus) because fossil fuels still represent a significant share of New York State's energy system. In 2022, EIA updated its methodology for calculating the primary consumption of electricity generation from noncombustible

renewable energy sources, including geothermal, hydroelectric power, solar, and wind, and by adopting a captured energy approach instead of the fossil fuel equivalency approach. The EIA website provides details (https://www.eia.gov/state/seds/seds-change/index.php/).

EIA based its methodology change on a closer alignment with international energy statistics standards. NYSERDA has historically relied on these consumption values and similar conversion methods to estimate electric generation by these technologies. For the 2023 data update, NYSERDA will continue using the fossil fuel equivalency method for conversion. Although EIA's decision provides strong support for this change, various applications exist for each conversion method. NYSERDA will continue evaluating the impacts on *Patterns and Trends* and other research efforts. Consequently, the 2023 update of New York State's *Patterns and Trends* report will maintain consistency with previous issues by using the fossil fuel equivalency approach for calculating primary energy consumption. This method ensures comparability across other New York State energy and fuel types, given that fossil fuels still account for a significant share of the State's energy mix. The report will present detailed data for each energy type using both conversion methods.

A.2. NYSERDA Methodology Changes and Updates

The number of data sources used for NYSERDA's annual *Patterns and Trends* report requires careful attention to changes in those data sources and an evaluation of how NYSERDA has historically analyzed and reported results.

NYSERDA identified a conversion issue associated with the historical distributed (or behind-the-meter) solar estimates from the NYISO Gold Books for the 2008–2018 data presentation. The 2025 release of *Patterns and Trends* corrects this conversion to gigawatt-hours (GWh).

NYSERDA continues relying on Table A-1 as the source of aviation fuel consumption.

Table A-1. Sources of Aviation Fuel Consumption Estimates

Years	Source of Aviation Fuels Consumption Estimate
1960–1980	EIA
1981–2010	NYSERDA
2010–Present	EIA

Appendix D provides an estimate of motor gasoline consumption by county. NYSERDA identified a methodological inconsistency in historical estimates since the 2024 publication of *Patterns and Trends*. Starting with the 2025 dataset, NYSERDA standardizes the forecast for county-level motor gasoline consumption across both historical data and the most recent 2023 forecasts. Additionally, units for electricity prices (real and nominal) were mislabeled and is now correctly dollars per megawatt hour.

A.3 References

U.S. Energy Information Administration (EIA). 2025. *State Energy Data System.* June 29. EIA. Accessed July 2025. Analyses and visualization by NYSERDA. https://www.eia.gov/state/seds/seds-data-changes.php?sid=NY#2023