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. These data are foundational elements for the NYSERDA's 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. Often, these adjustments apply to historical data points as well, resulting in variations year-to-year for the data presented in each Patterns and Trends report.

This link provides a detailed log of any changes that EIA has applied to data or methodology: EIA Data Changes (https://www.eia.gov/state/seds/seds-data-changes.php?sid=NY).

For the 2022 datasets, EIA noted that prices associated with several petroleum products changed due to the suspension of the EIA-782 survey. The new method relies on state-level regression models. Any specific petroleum product with historical price changes should reference this information for details.

Another significant change highlighted within the Patterns and Trends report for the 2022 data update relates to EIA's methodology for calculating the primary consumption of electricity generation from noncombustible renewable energy sources, including geothermal, hydroelectric power, solar, and wind. The update involves using a captured energy approach instead of the fossil fuel equivalency approach. s Details are provided on the EIA website: EIA Methodology Changes (https://www.eia.gov/state/seds/seds-change/index.php/).

EIA has 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 2022 data update, NYSERDA will maintain the fossil fuel equivalency method for conversion. Although EIA's decision provides strong guidance for this change, various applications exist for each conversion method. NYSERDA will evaluate the impacts on Patterns and Trends and other research efforts. Consequently, primary energy consumption for New York State in the Patterns and Trends report for this 2022 update will align with past issues. The report will present details for each energy type using both conversions methods. Patterns and Trends

A.2. New York State Research and Development Authority Methodology Changes and Updates

The number of data sources used for NYSERDA's annual Patterns and Trends report requires careful attention to the changes from those data sources, along with an evaluation of how NYSERDA has historically analyzed, and reported these results.

Establishing a representative estimate for aviation fuel consumption in New York State has posed challenges. Aviation fuel includes both jet fuel and aviation gasoline. Historically, NYSERDA observed a low estimate for aviation fuel consumption from EIA beginning in 1981. To address this, NYSERDA calculated the total aviation fuel consumed in New York State and neighboring New Jersey (NJ). NYSERDA then factored this two-state summation down using a percentage of aviation miles based on revenue between the states. This method worked well until approximately 2010, when estimates from EIA and NYSERDA became nearly identical. Since 2010, the estimates from NYSERDA and EIA have generally remained within +/-10% of each other.

As a result of this continued comparability, NYSERDA decided to avoid over analysis and use the sources in Table A-1 for the history of aviation fuel consumption.

Table A-1. Sources of Aviation Fuels Consumption Estimates Definition

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

Appendix A References

U.S. Energy Information Administration (EIA). 2024a. "State Energy Data System." June 28. Accessed July 2024. https://www.eia.gov/state/seds/