



ASAP

(American Solar Action Plan)

PV-Wind Monthly Data Slideshow

June 2024

ASAP

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Highlights for March 2024



- PV capacity additions are a strong 3,216 MW; wind capacity additions are a disappointing 132 MW.
 - MW = megawatts; GW = gigawatts (1000 MW); TW = terawatts (1000 GW)
- PV and Wind generated 21.2% of total U.S. electricity generation in March.
- PV cumulative capacity is poised to surpass wind cumulative capacity in 2024.
- PV panel imports increased 13% to \$1.6 billion, which supports strong U.S. PV capacity additions.
- For the month of May, TAN ETF (solar) share price increased 19.7%, and FAN ETF (wind) share price increased 14.0%.

Slideshow Objectives



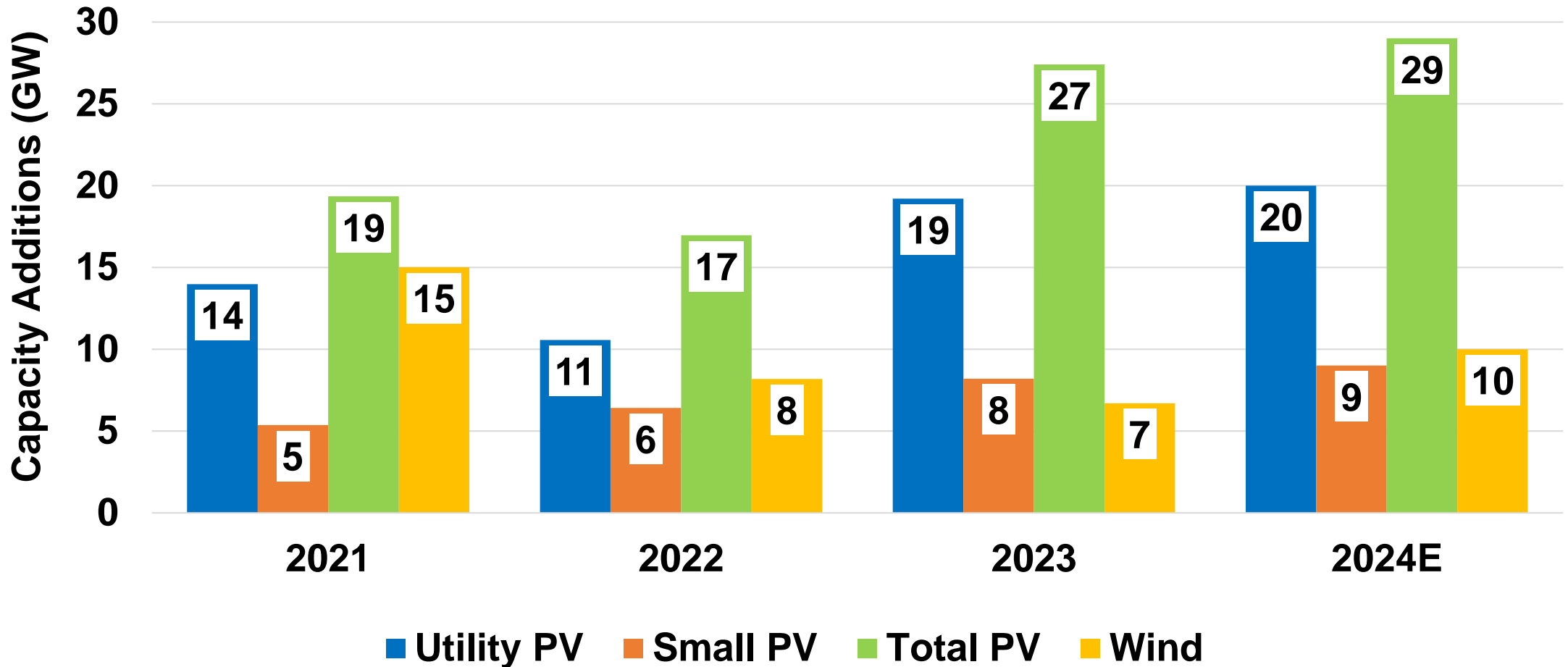
- To Document Monthly and Annual Growth in PV and Wind Capacity and Electricity Generation
 - MW = megawatts; GW = gigawatts; TW = terawatts; MT = thousand metric tons (polysilicon)
- PV and Wind Capacity Additions
 - The Graphs Show Current and Past Year Monthly PV and Wind Capacity Additions
 - For Perspective, Compare Current Monthly Capacity Additions to the Long-Term Goals
 - U.S. PV Long-Term Goal (2040 forward)
 - Monthly Average – 8 GW of Capacity Additions
 - Annual Average – 96 GW of Capacity Additions
 - U.S. Wind Long-Term Goal (2040 forward)
 - Monthly Average – 4 GW of Capacity Additions
 - Annual Average – 48 GW of Capacity Additions
 - World PV Long-Term Goal (2040 forward)
 - Annual Average – 700 GW of Capacity Additions
 - World Wind Long-Term Goal (2040 forward)
 - Annual Average – 300 GW of Capacity Additions
- Slides Present U.S. Monthly PV, Wind and Fossil Fuel Electricity Generation to Show Seasonality



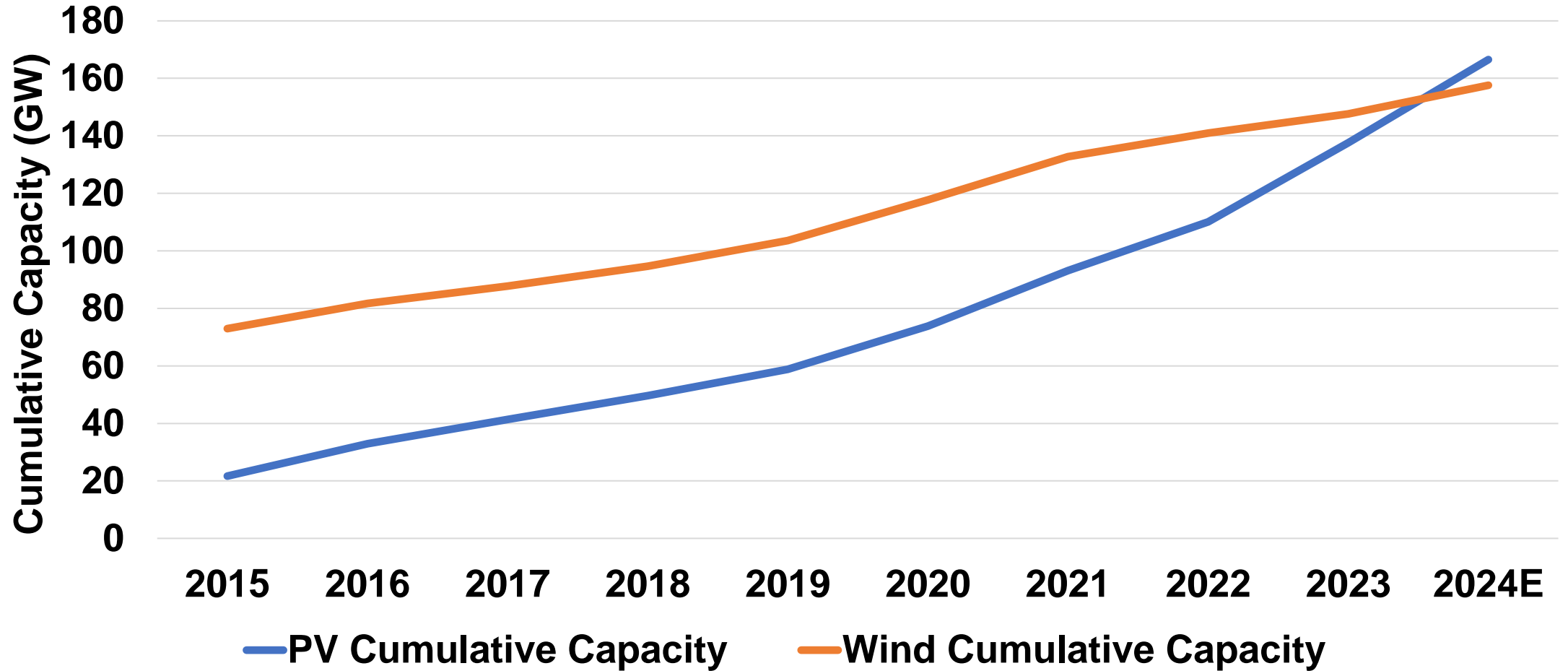
U.S. PV and Wind Capacities

2024 PV and Wind Forecast

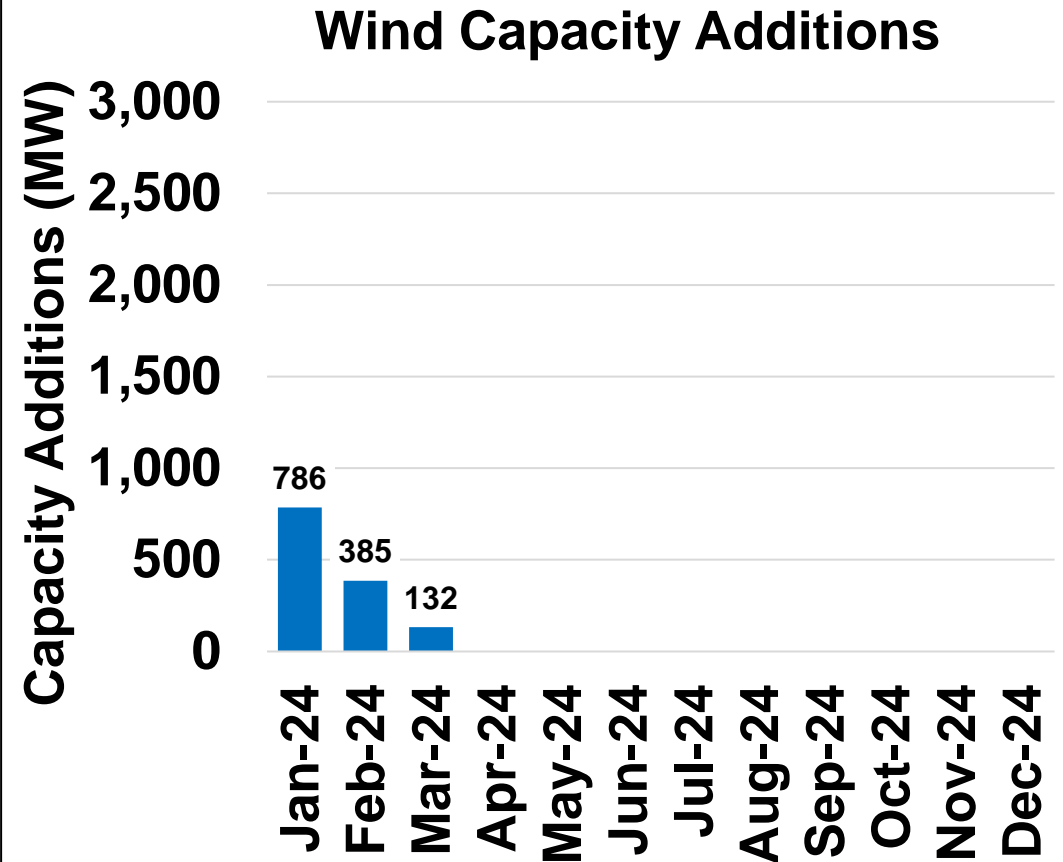
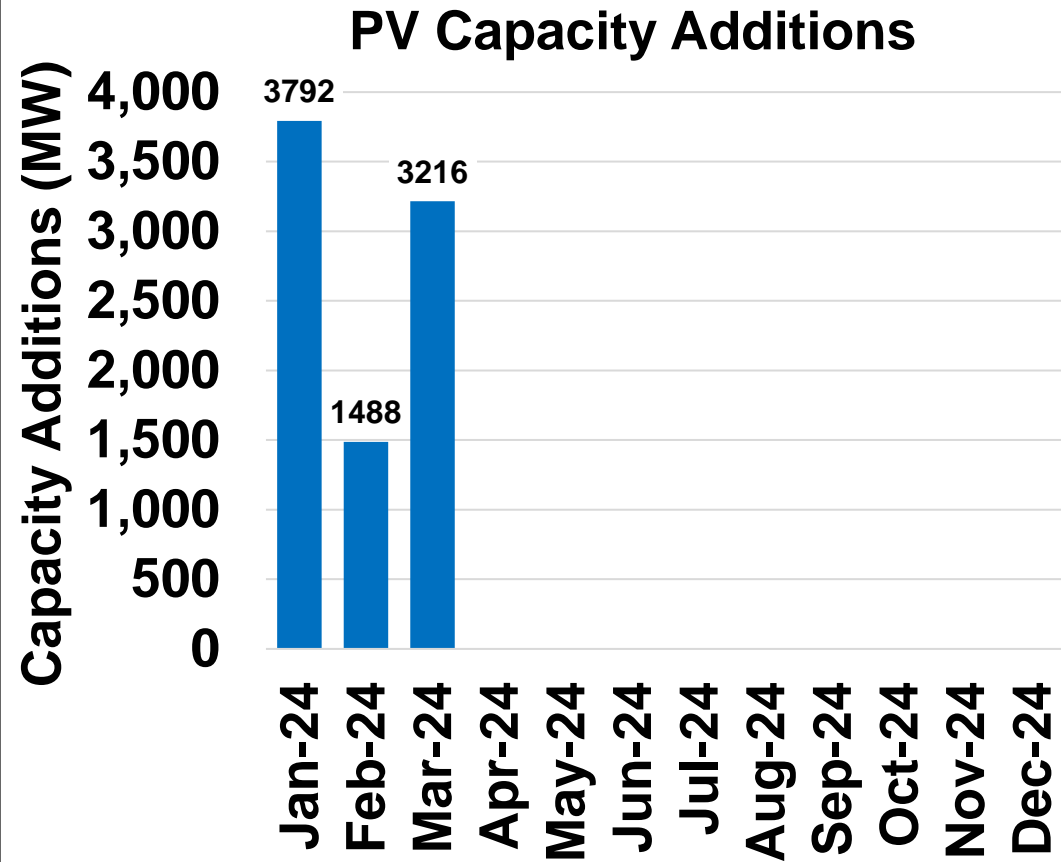
U.S. Annual PV and Wind Capacity Additions 2021-2023



PV and Wind Annual Cumulative Capacity Forecast



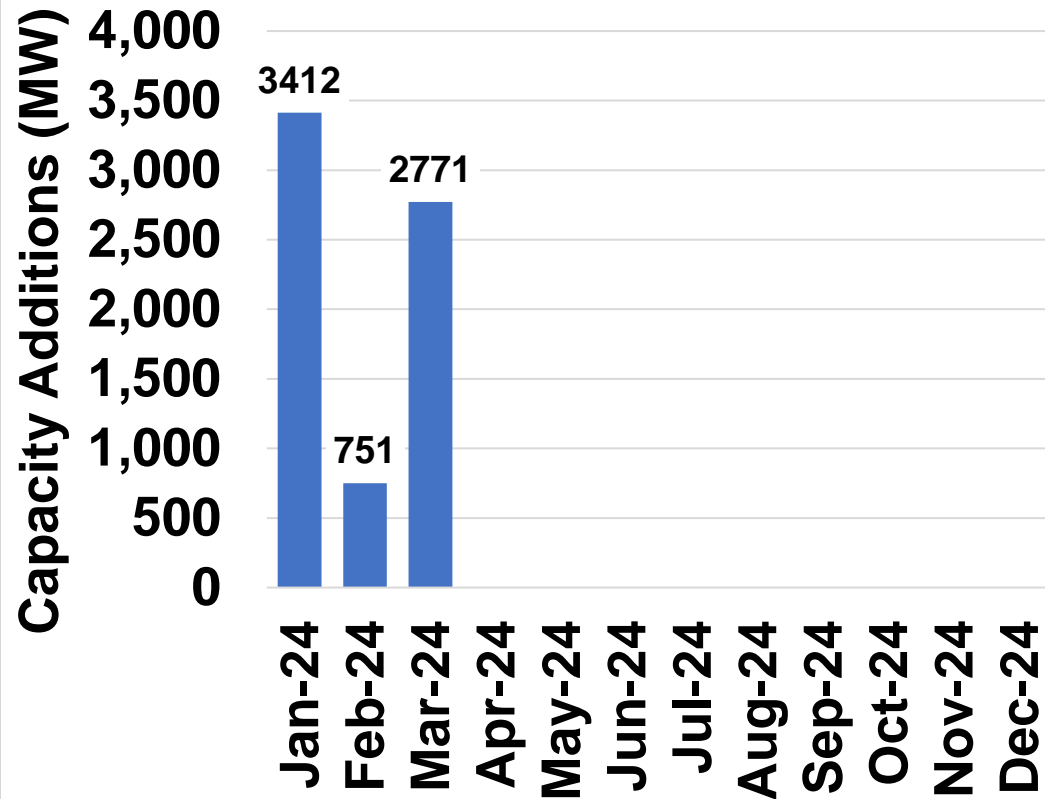
U.S. PV and Wind Monthly Net Capacity Additions 2024 (through March)



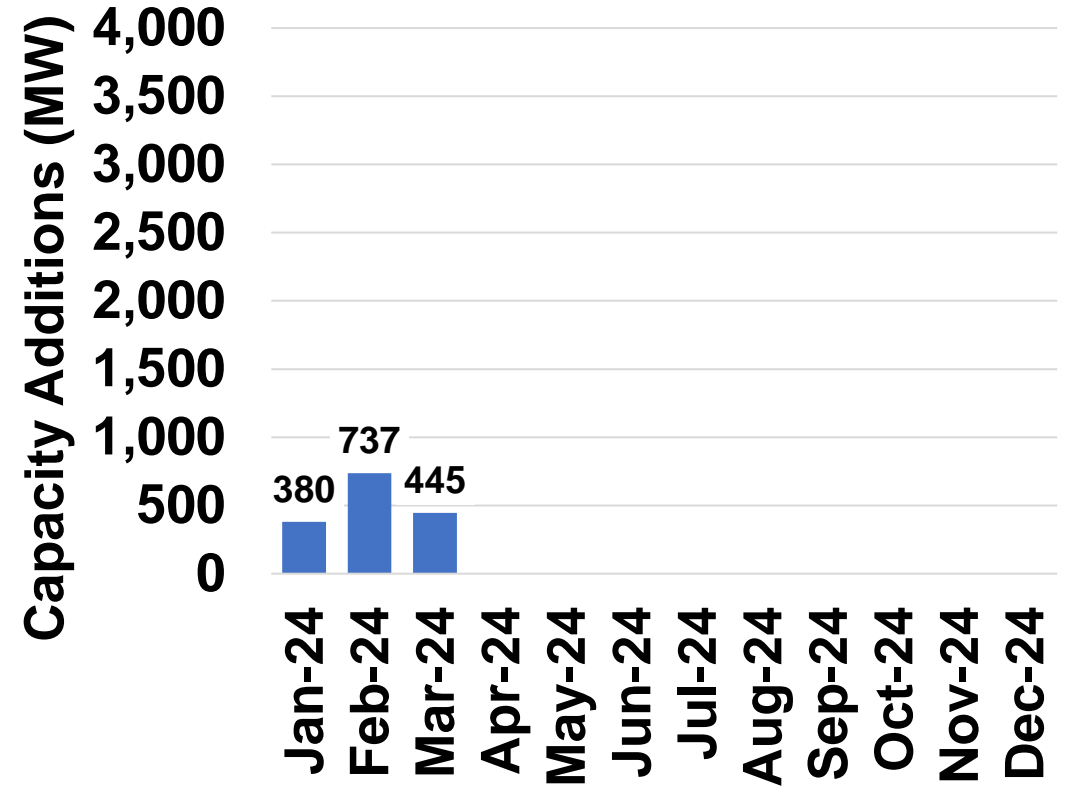
Monthly Utility and Small PV Net Capacity Additions 2024 (through March)



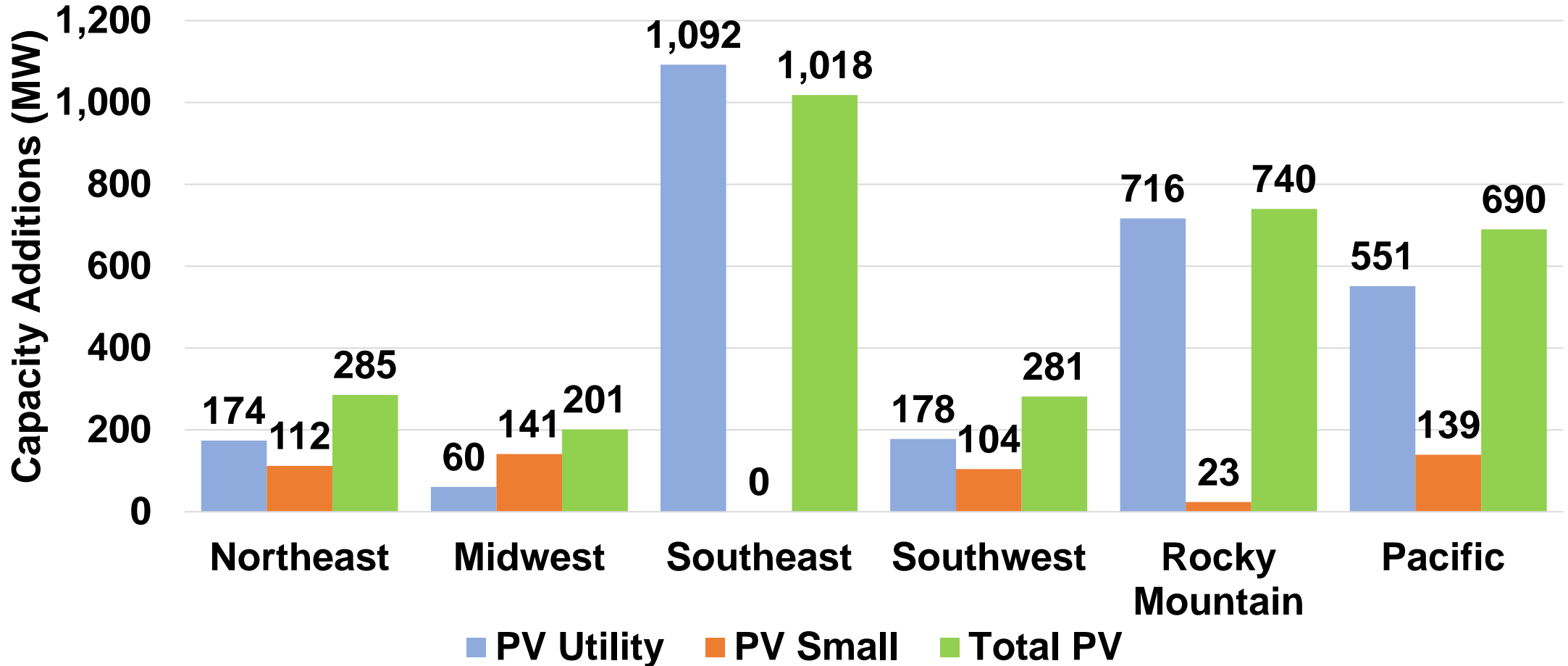
Utility PV Capacity Additions



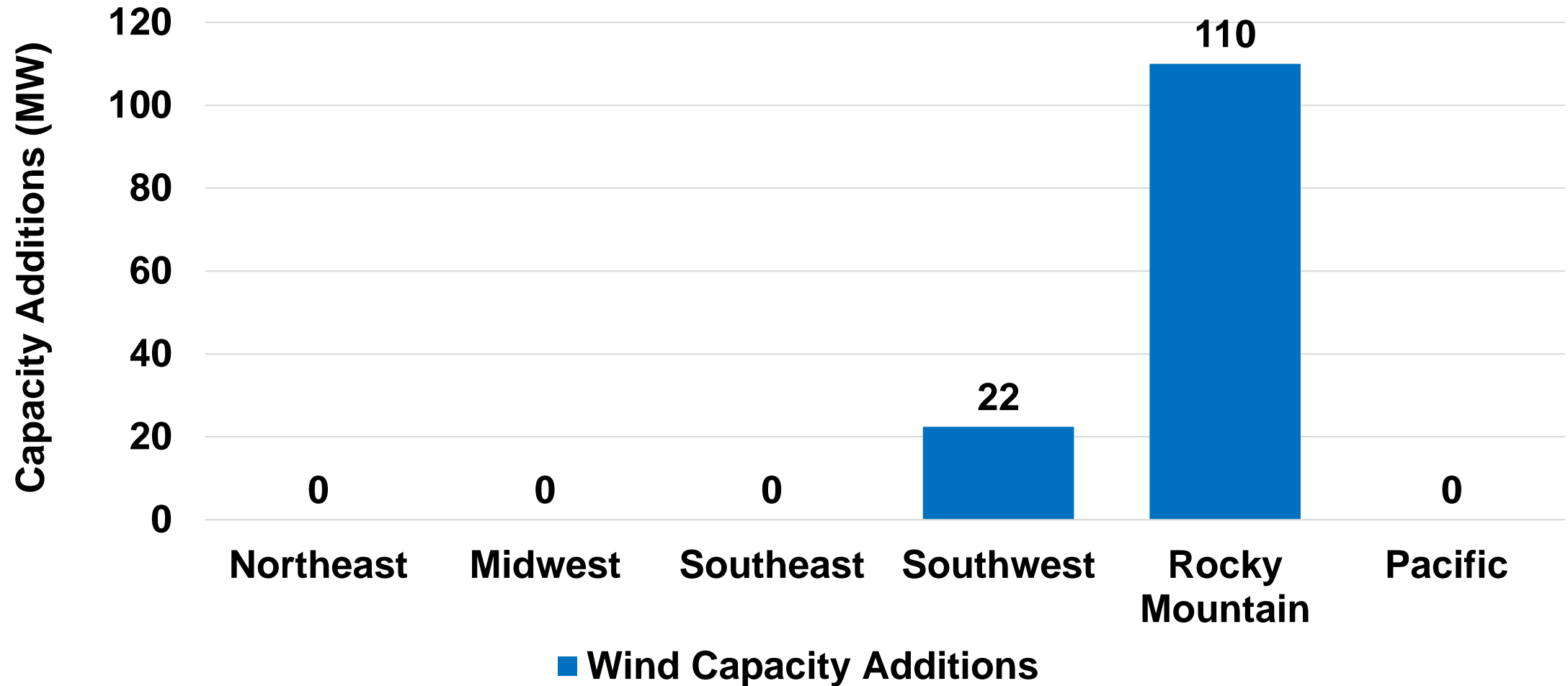
Small PV Capacity Additions



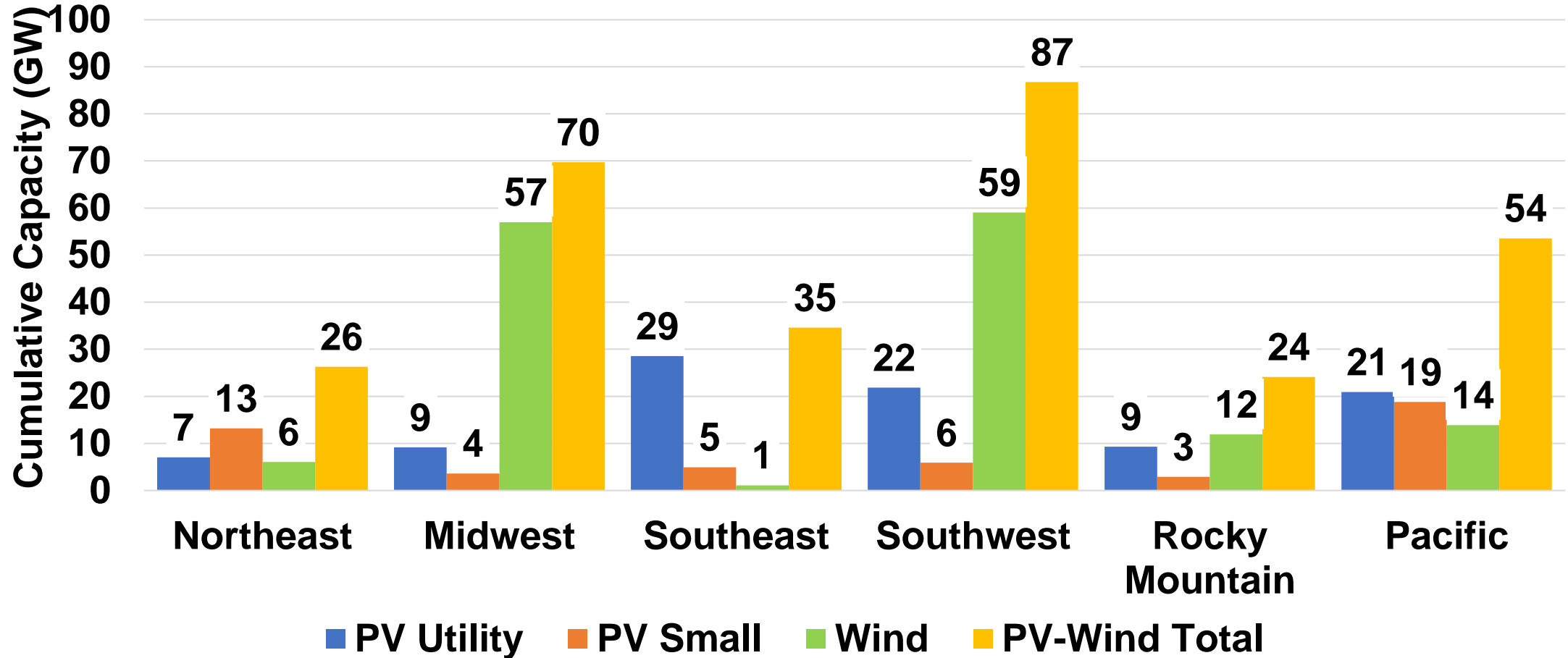
Regional PV Capacity Additions March 2024



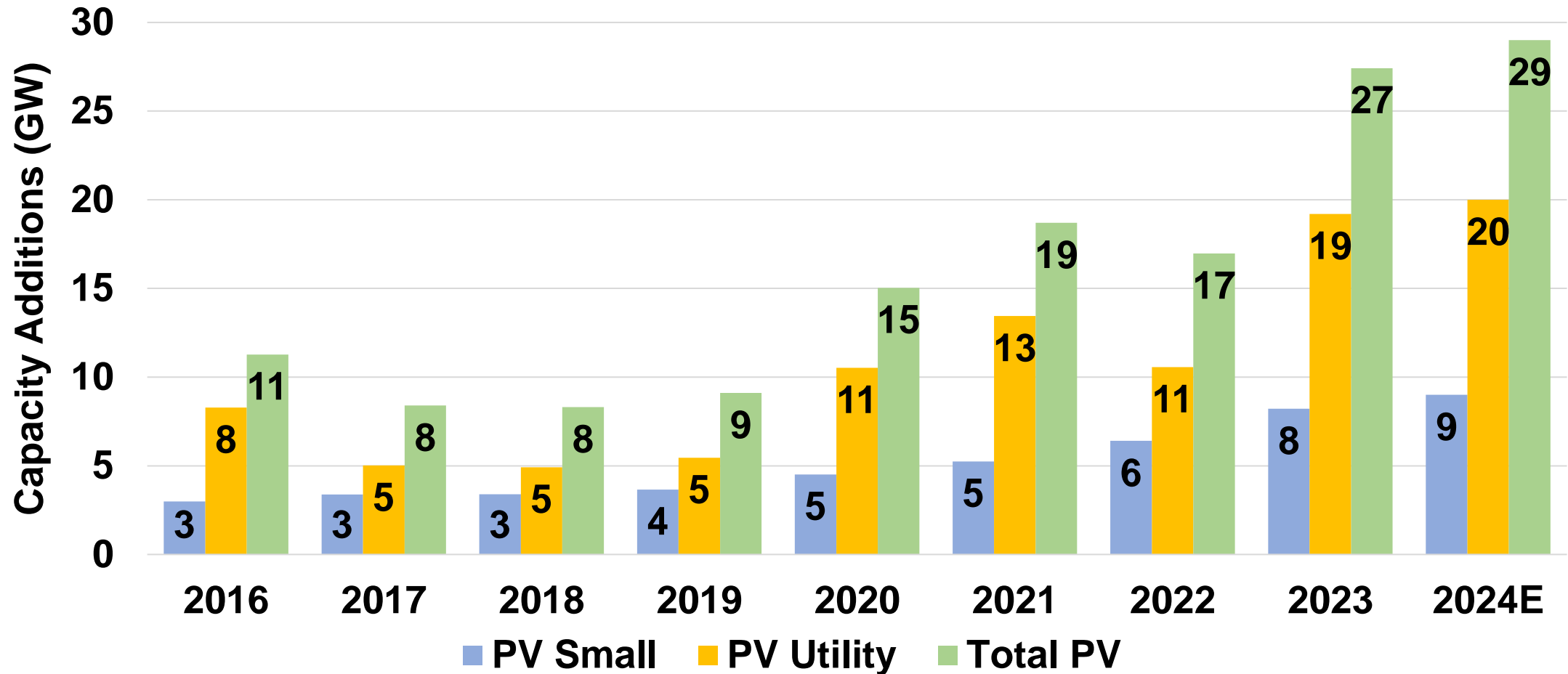
Regional Wind Net Capacity Additions March 2024



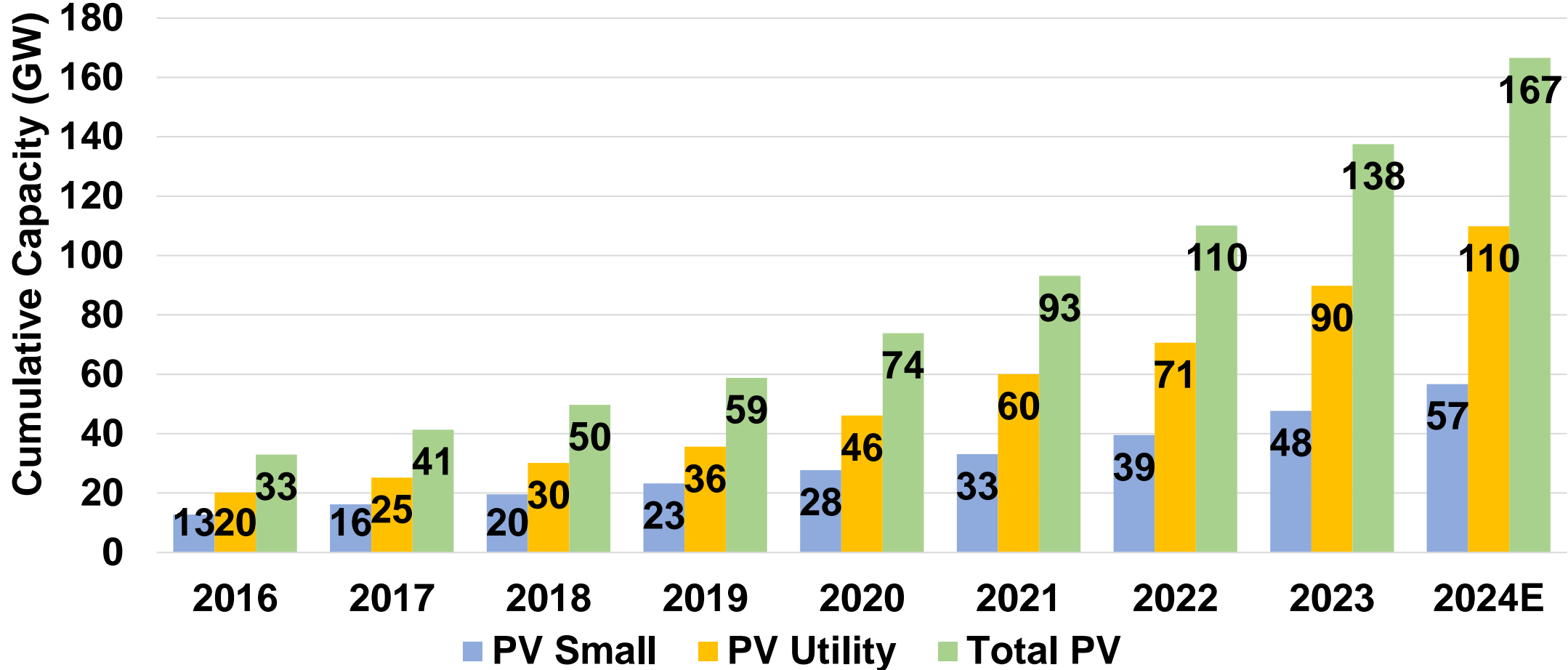
PV and Wind Cumulative Capacity by Region March 2024



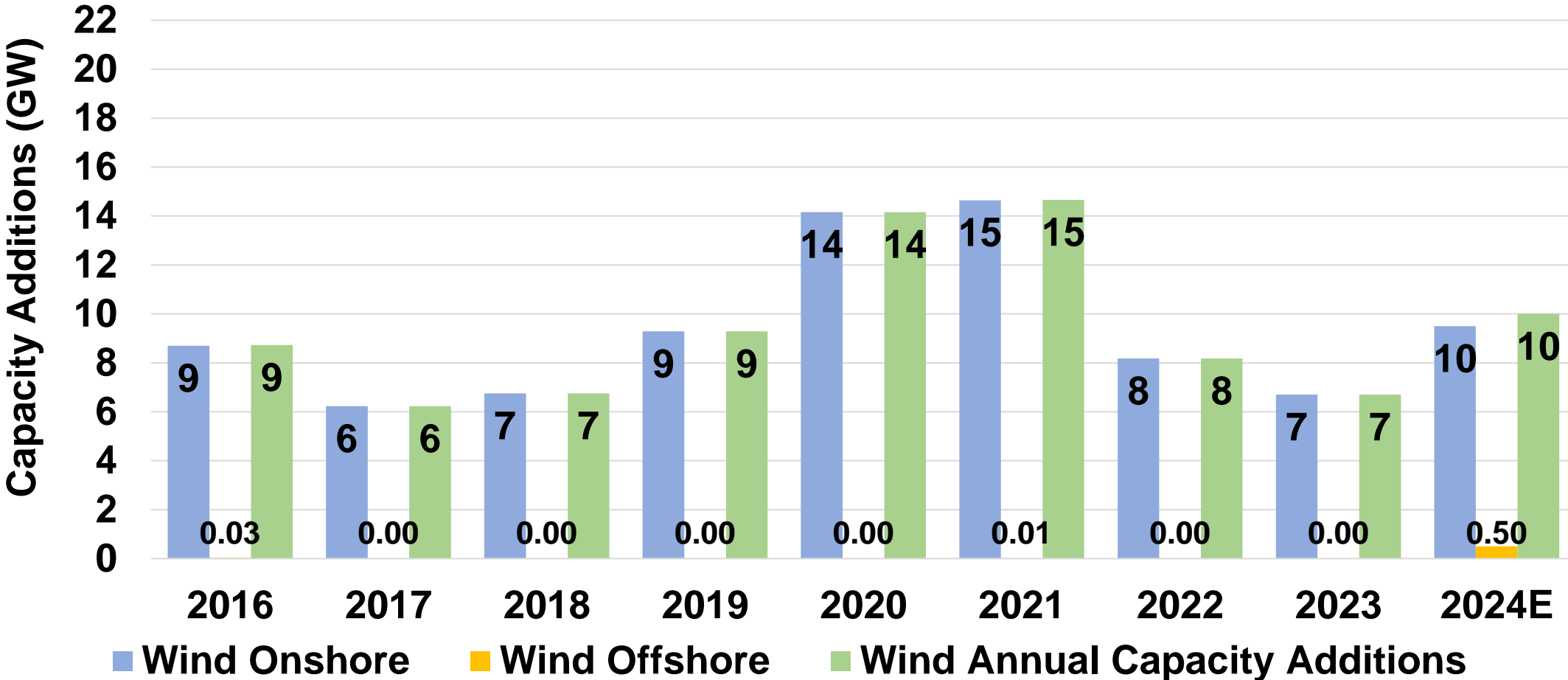
PV Annual Capacity Additions 2024 Forecast



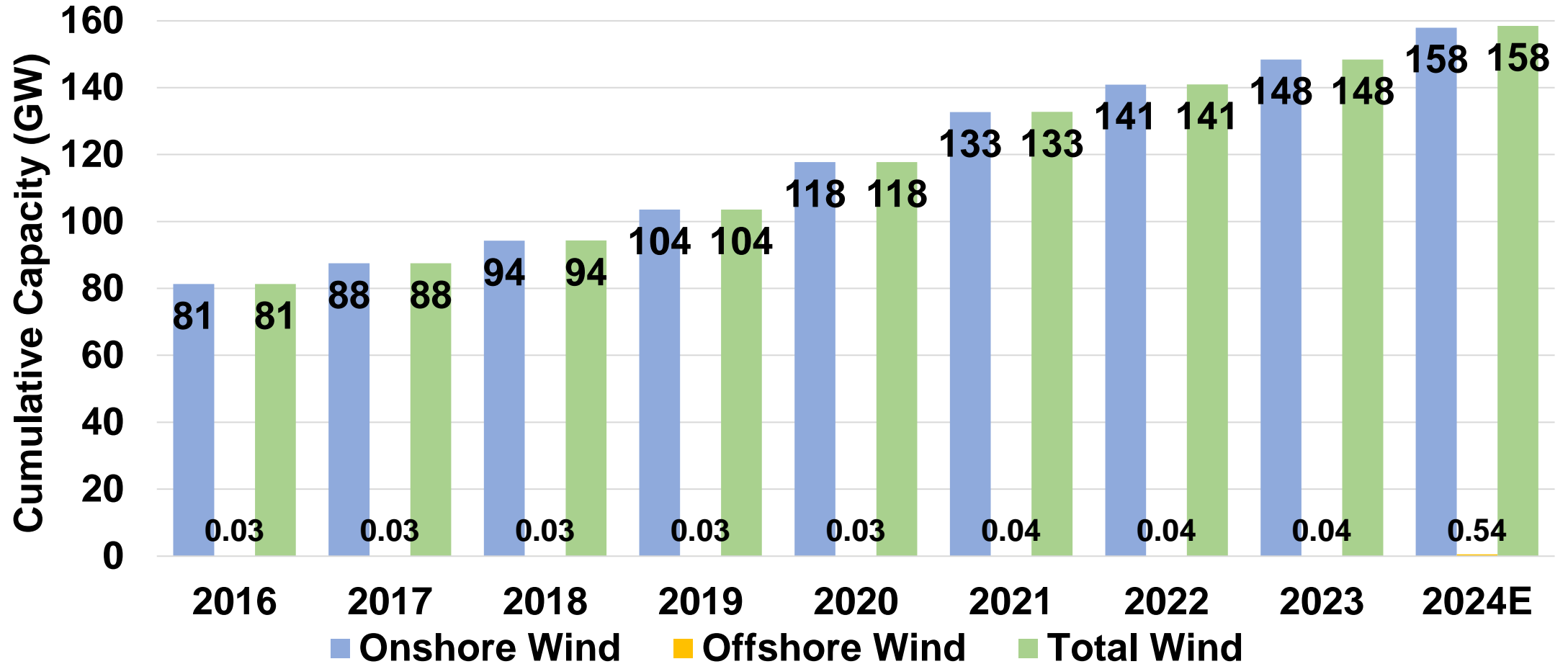
PV Annual Cumulative Capacity 2024 Forecast



Wind Annual Capacity Additions 2024 Forecast



Wind Annual Cumulative Capacity 2024 Forecast

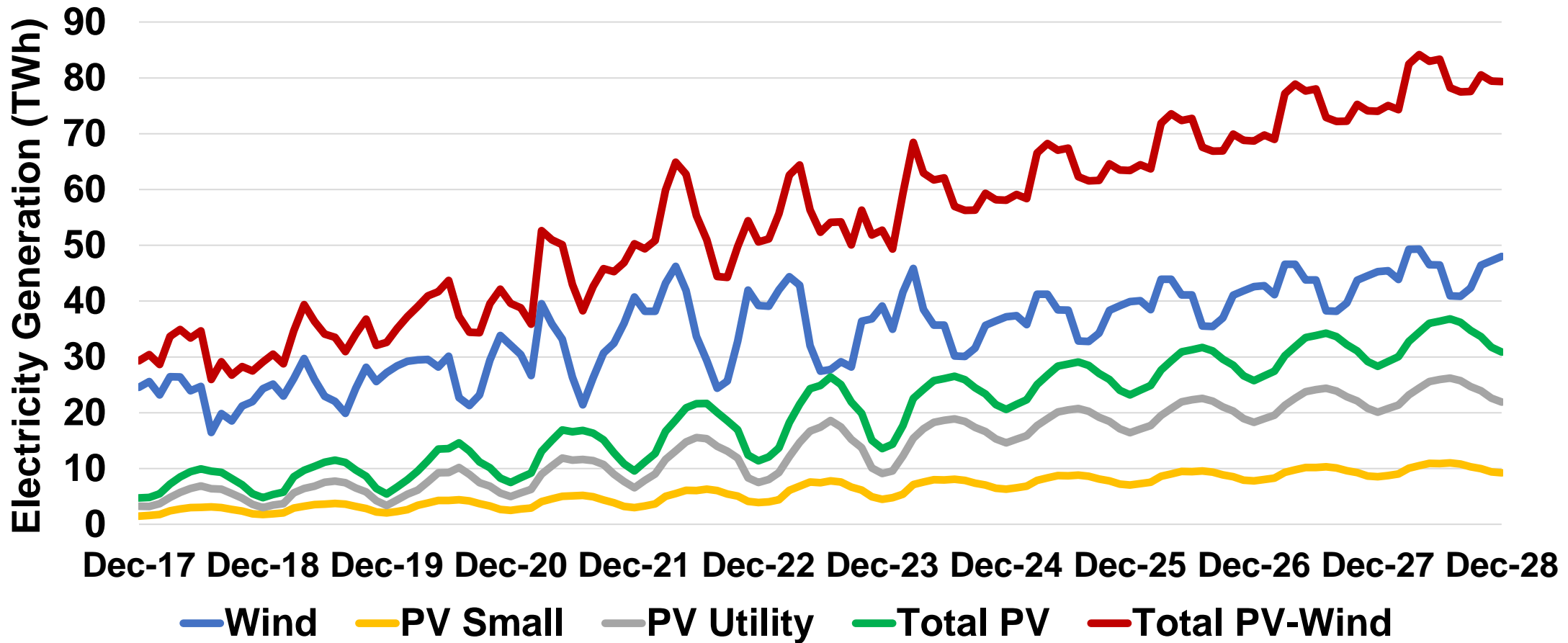




U.S. PV and Wind Electricity Generation

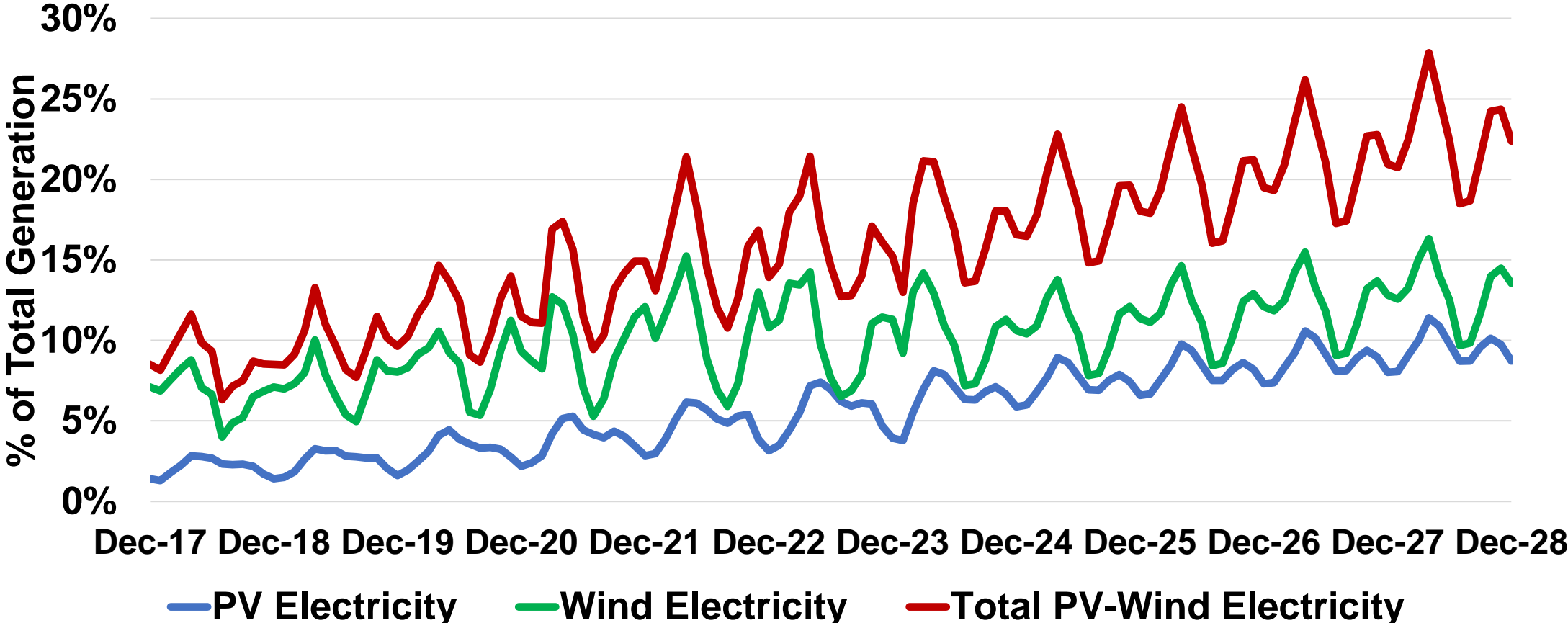
U.S. PV & Wind Monthly Electricity Generation (2018-2028)

Actual through March 2024; Forecast through Dec. 2028



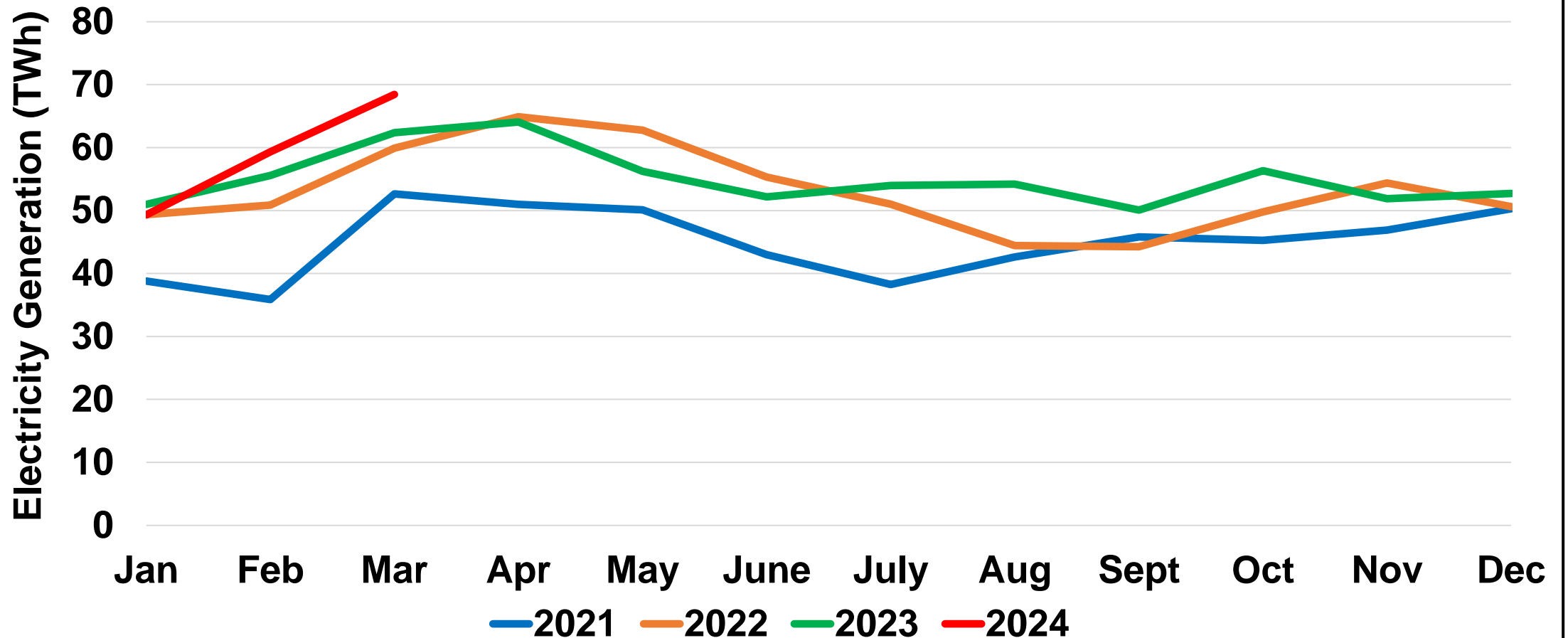
Note: PV Small is less than 1.0 MW; PV Utility is 1.0 MW and greater

U.S. PV & Wind Electricity as % of Total Generation Actual through March 2024; Forecast through Dec. 2028

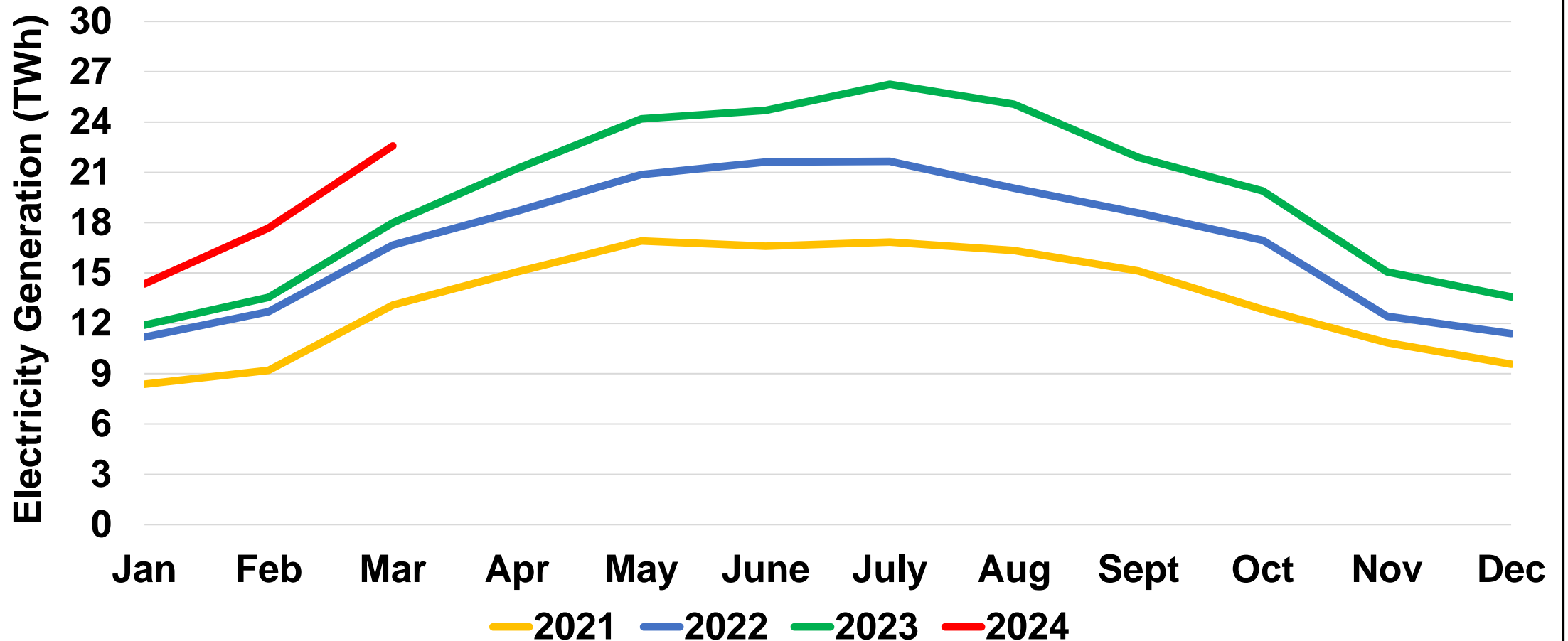


Note: Fossil fuel electricity generation was 60% of total 2022 electricity generation.

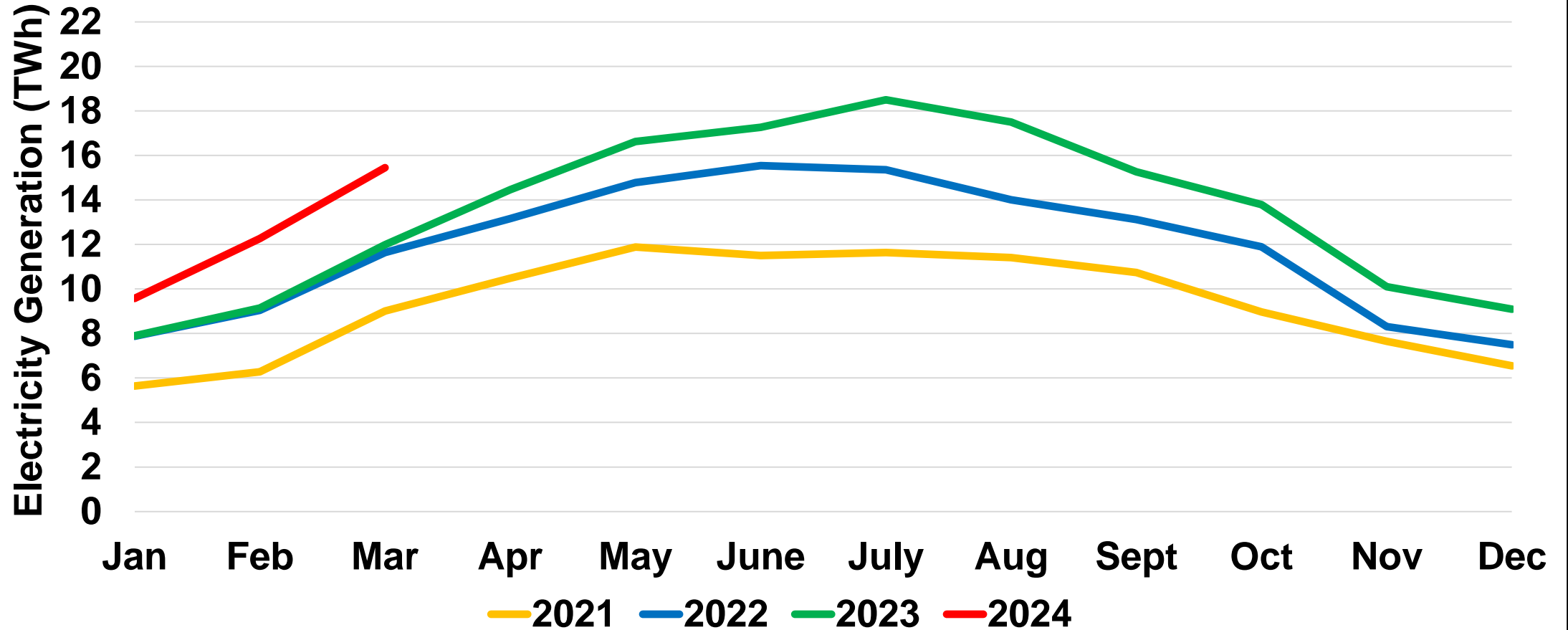
Combined PV and Wind Electricity Generation Year-on-Year (through March 2024)



PV Electricity Generation Year-on-Year (through March 2024)

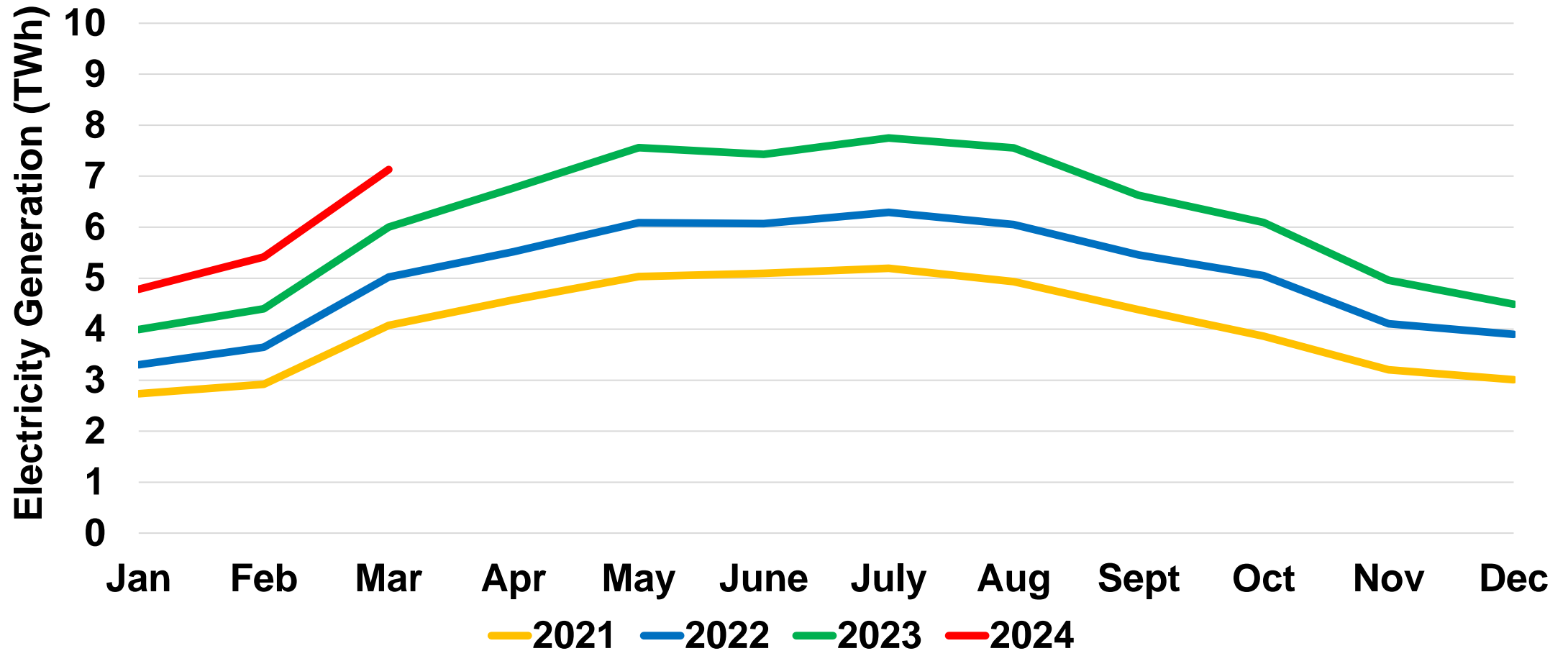


Utility PV Electricity Generation Year-on-Year (through March 2024)

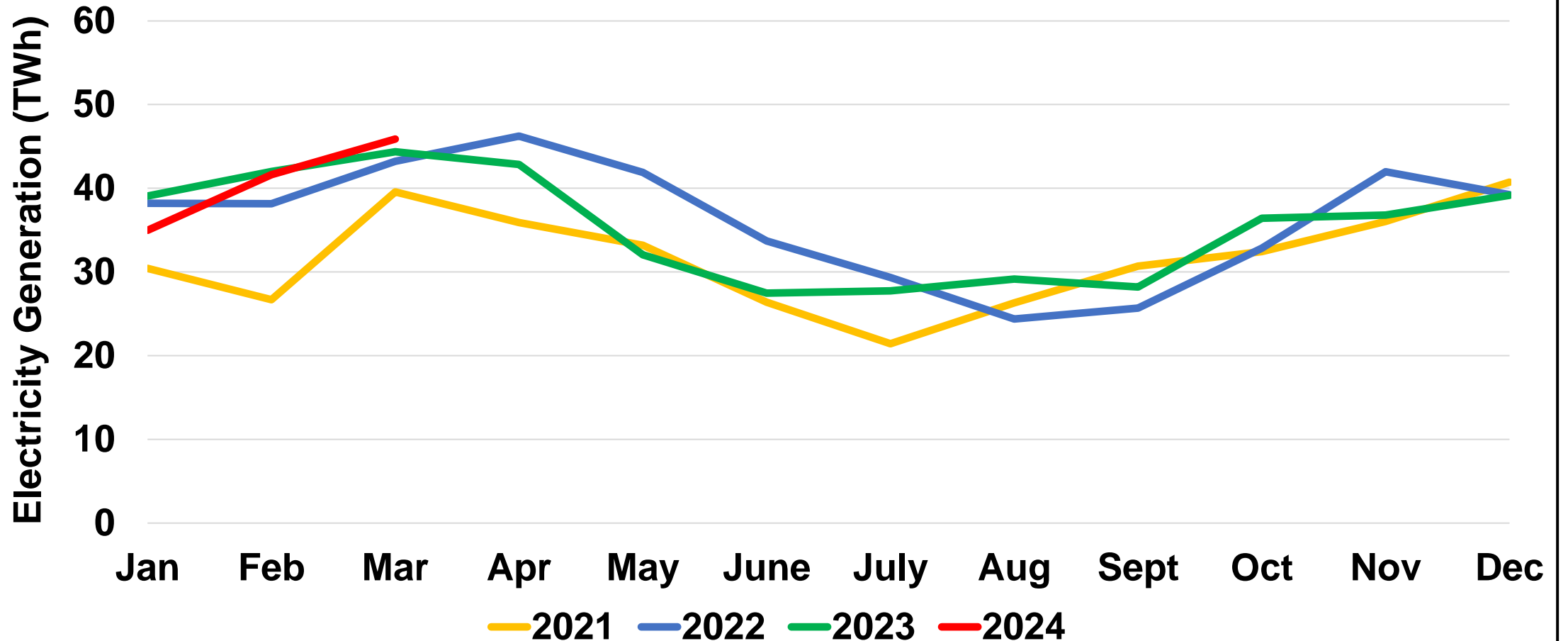


Note: PV Utility is greater than 1.0 MW

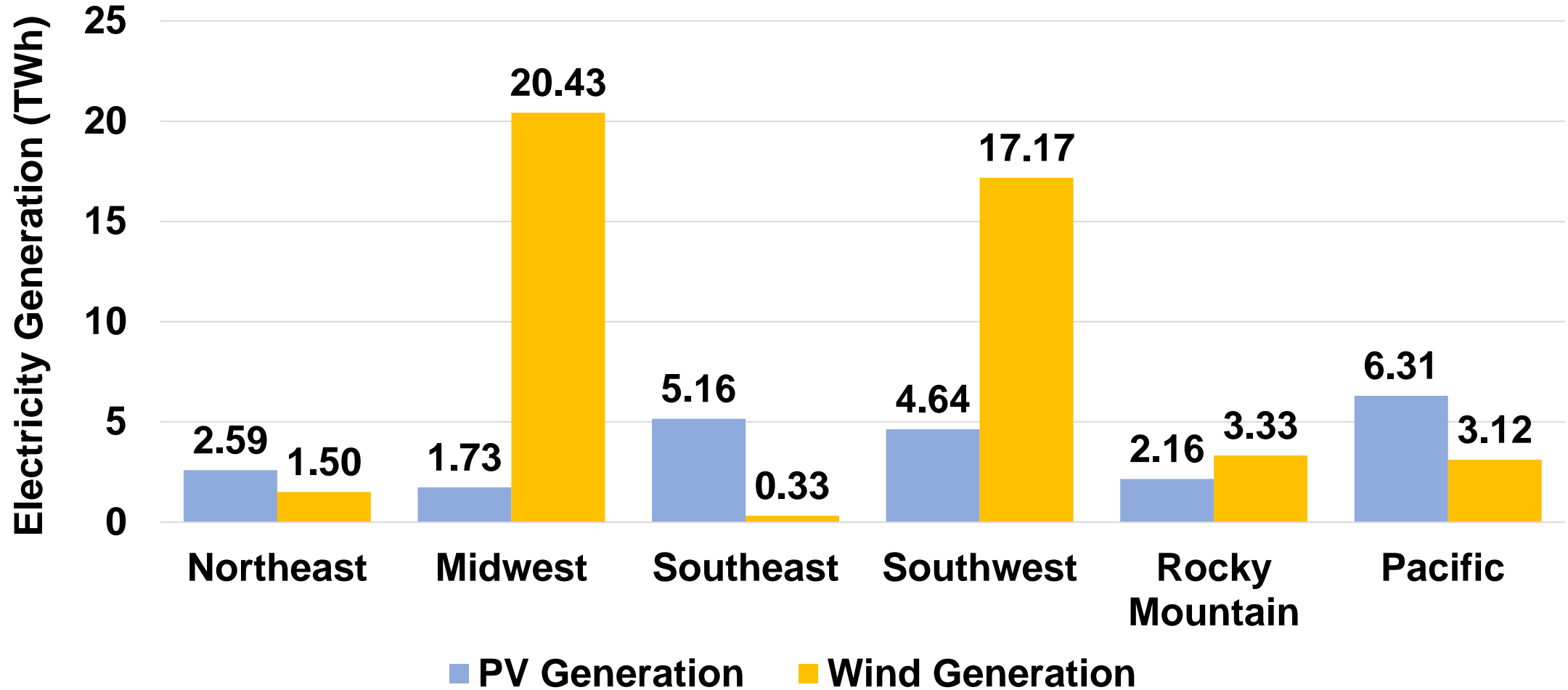
Small PV Electricity Generation Year-on-Year (through March 2024)



Wind Electricity Generation Year-on-Year (through March 2024)



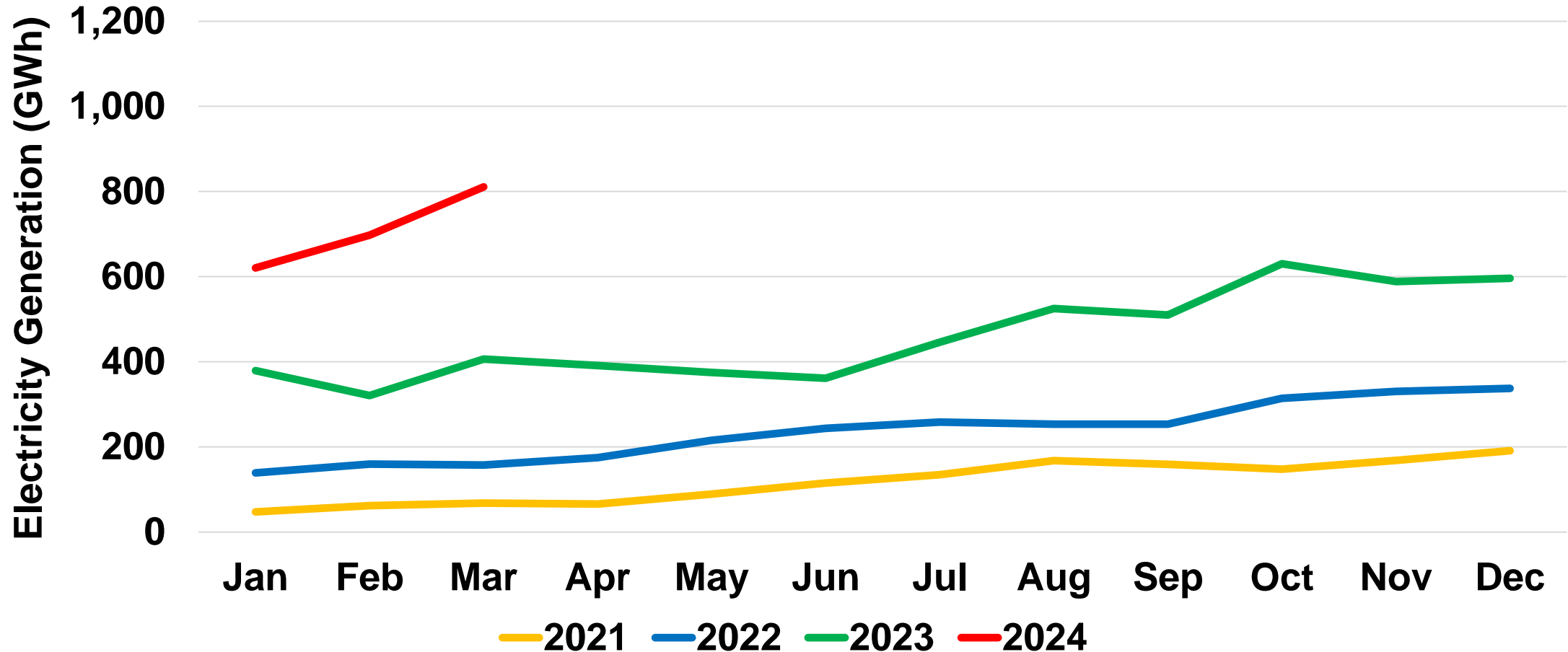
Regional PV & Wind Electricity Generation March 2024





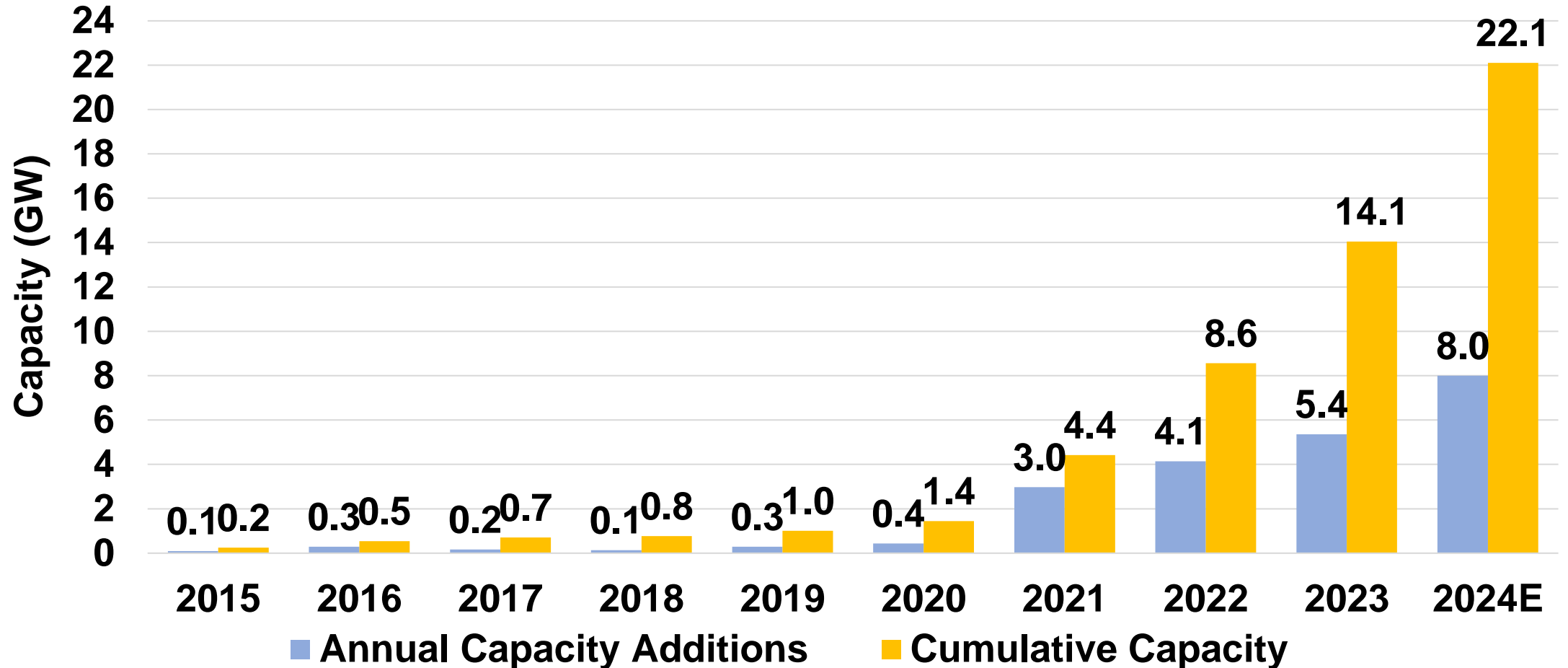
U.S. Battery Storage

Battery Electricity Generation Year-on-Year (through March 2024)



Battery Storage Forecast 2024

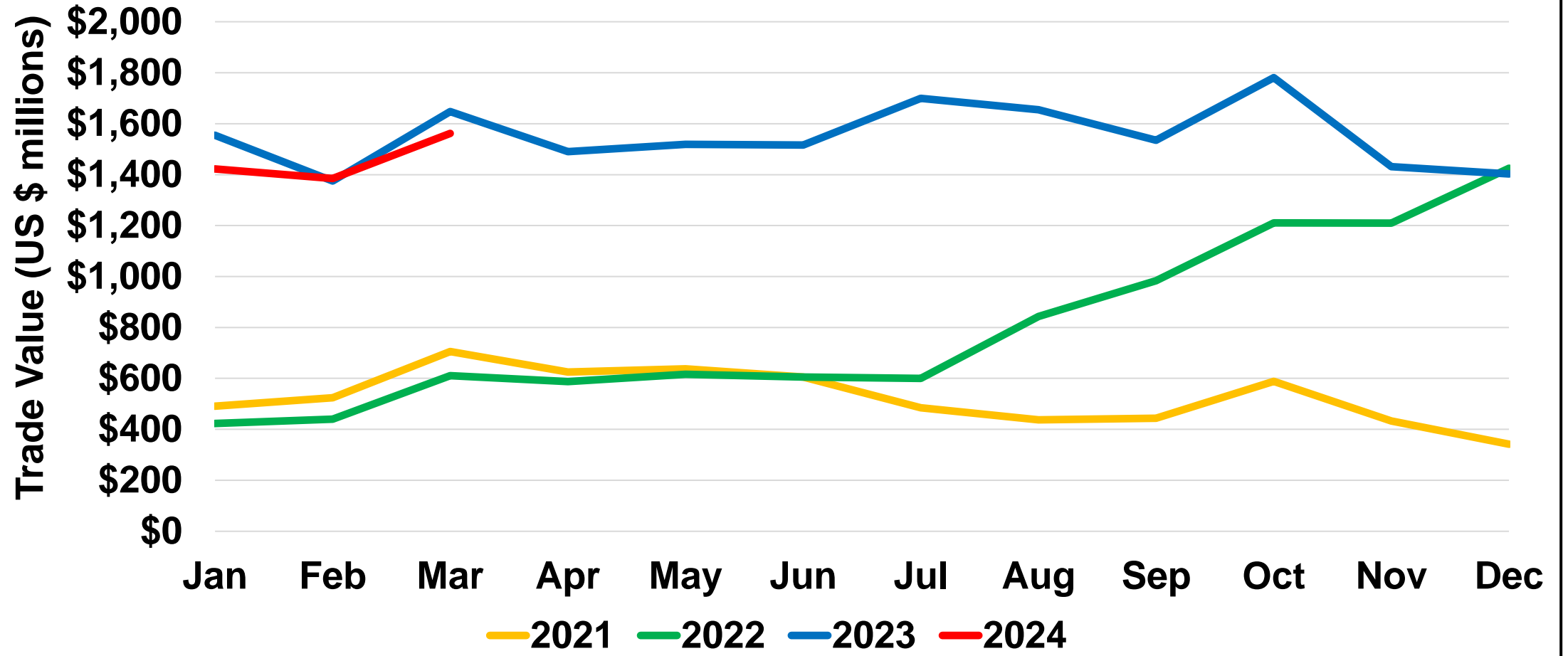
Annual Capacity Additions and Cumulative Capacity



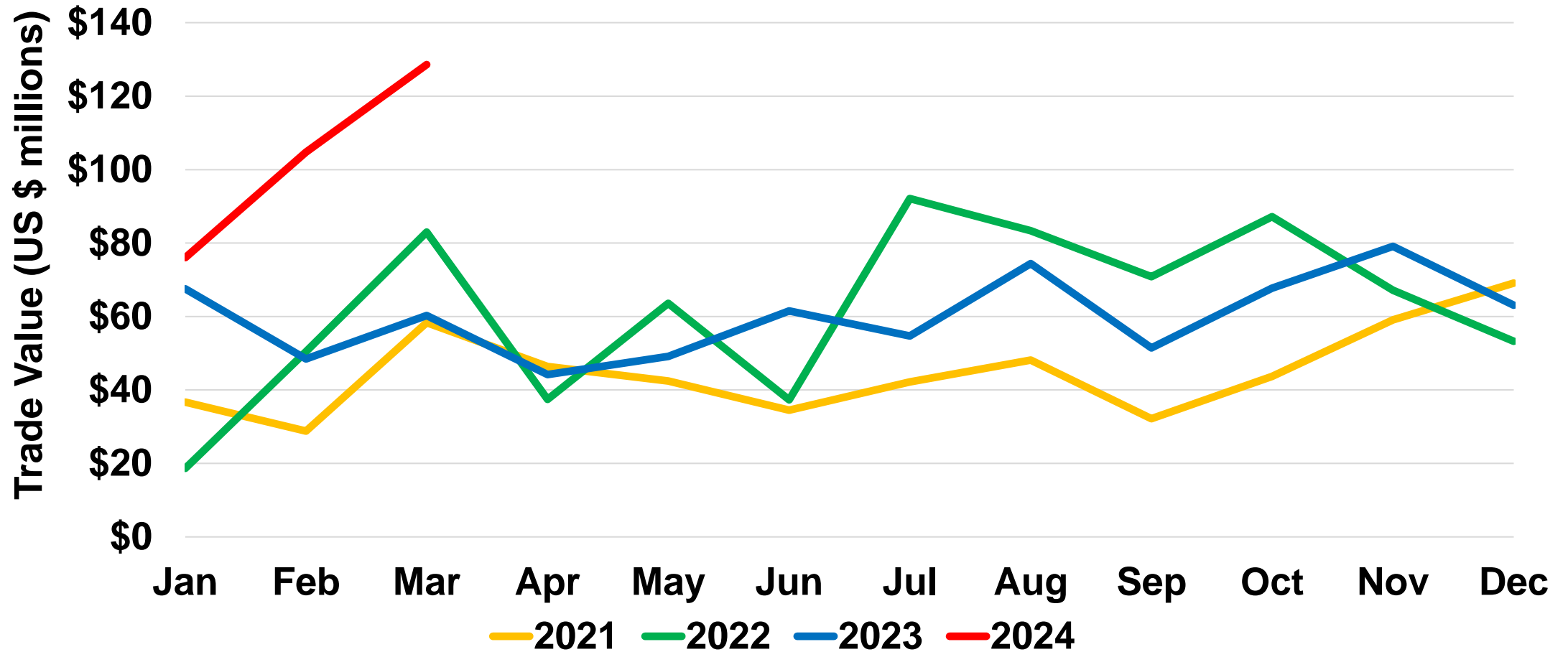


U.S. PV Trade (Cells and Modules)

U.S. Year-on-Year PV Panel Imports (through March 2024)



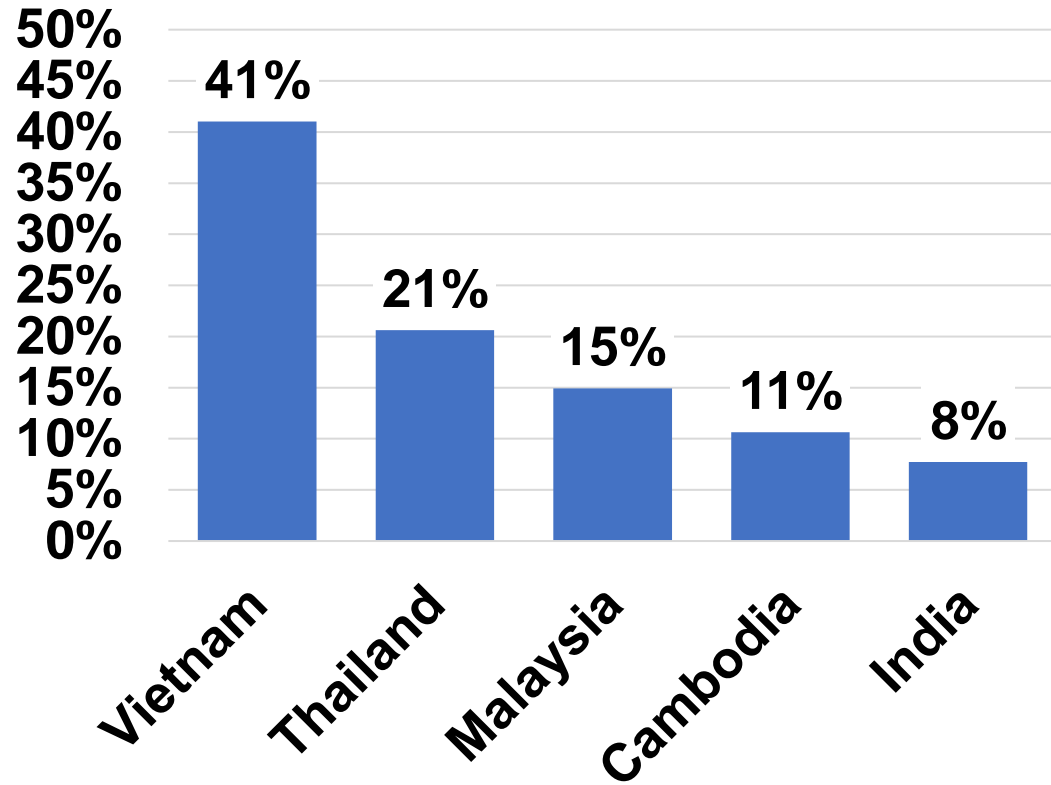
U.S. Year-on-Year PV Cell Imports (through March 2024)



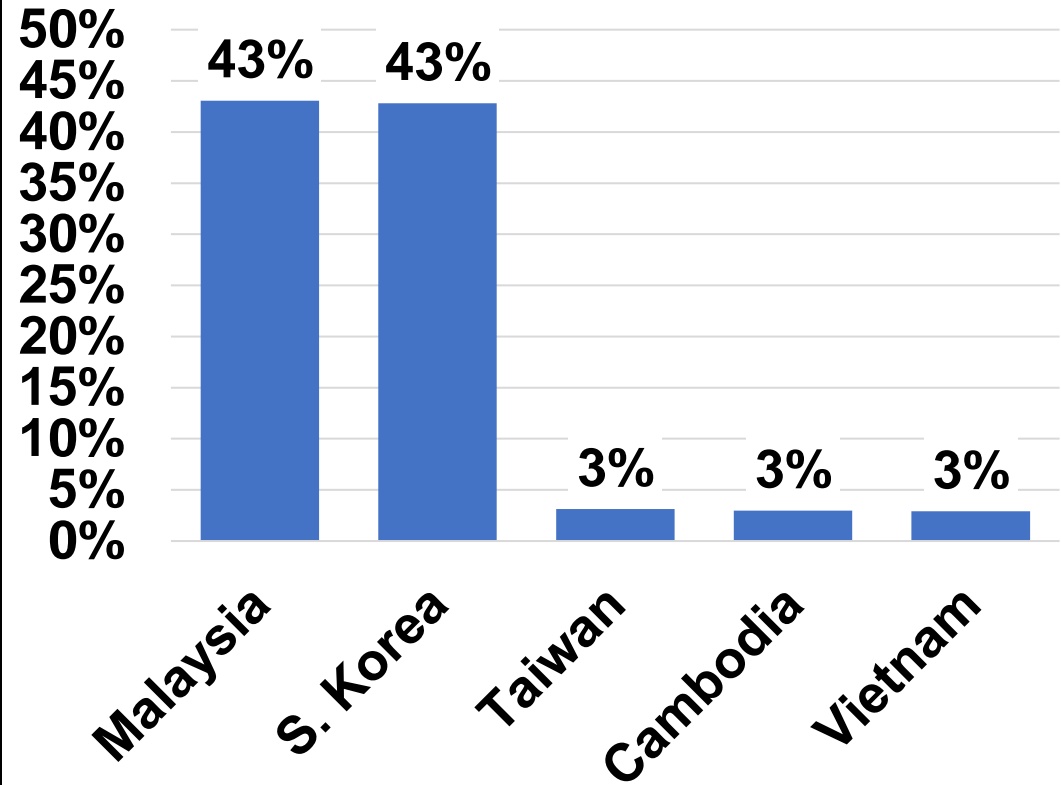
Monthly U.S. PV Panel and Cell Imports by Country March 2024



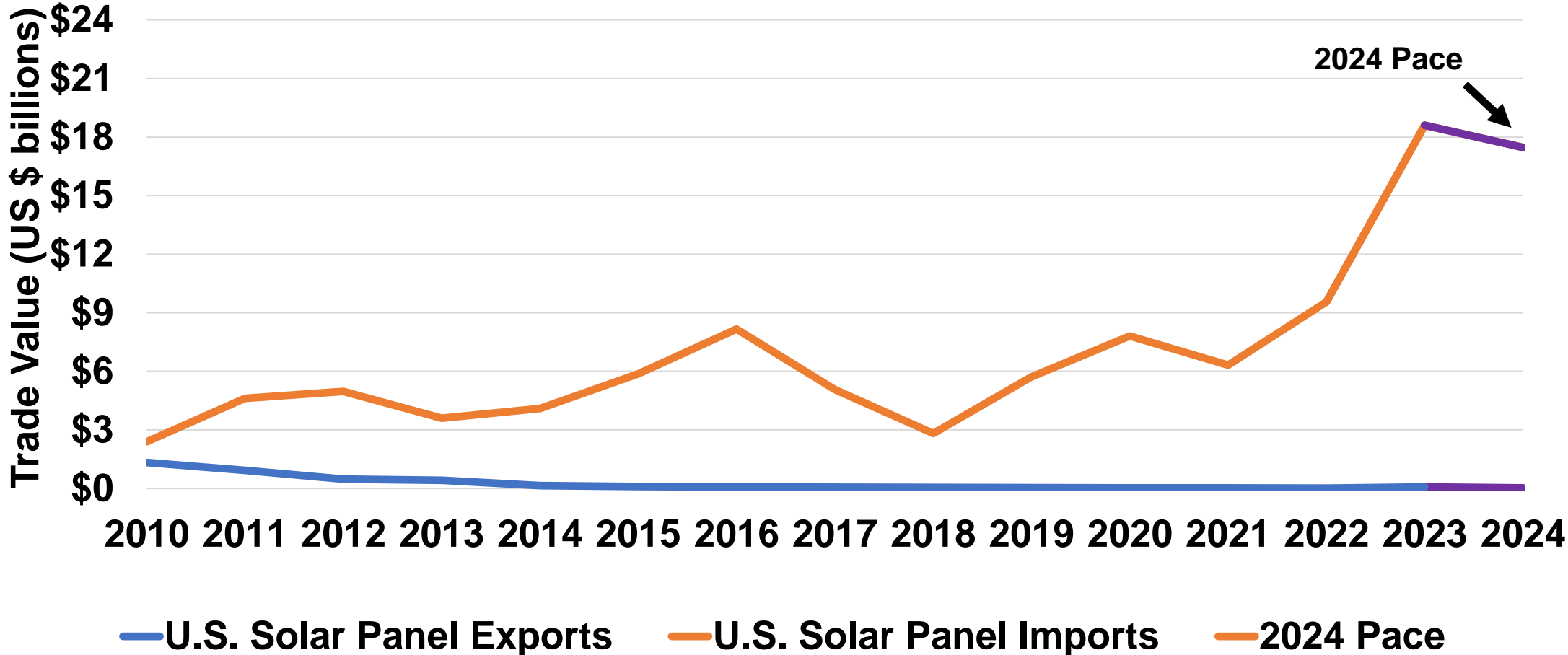
U.S. PV Panel Imports by Country



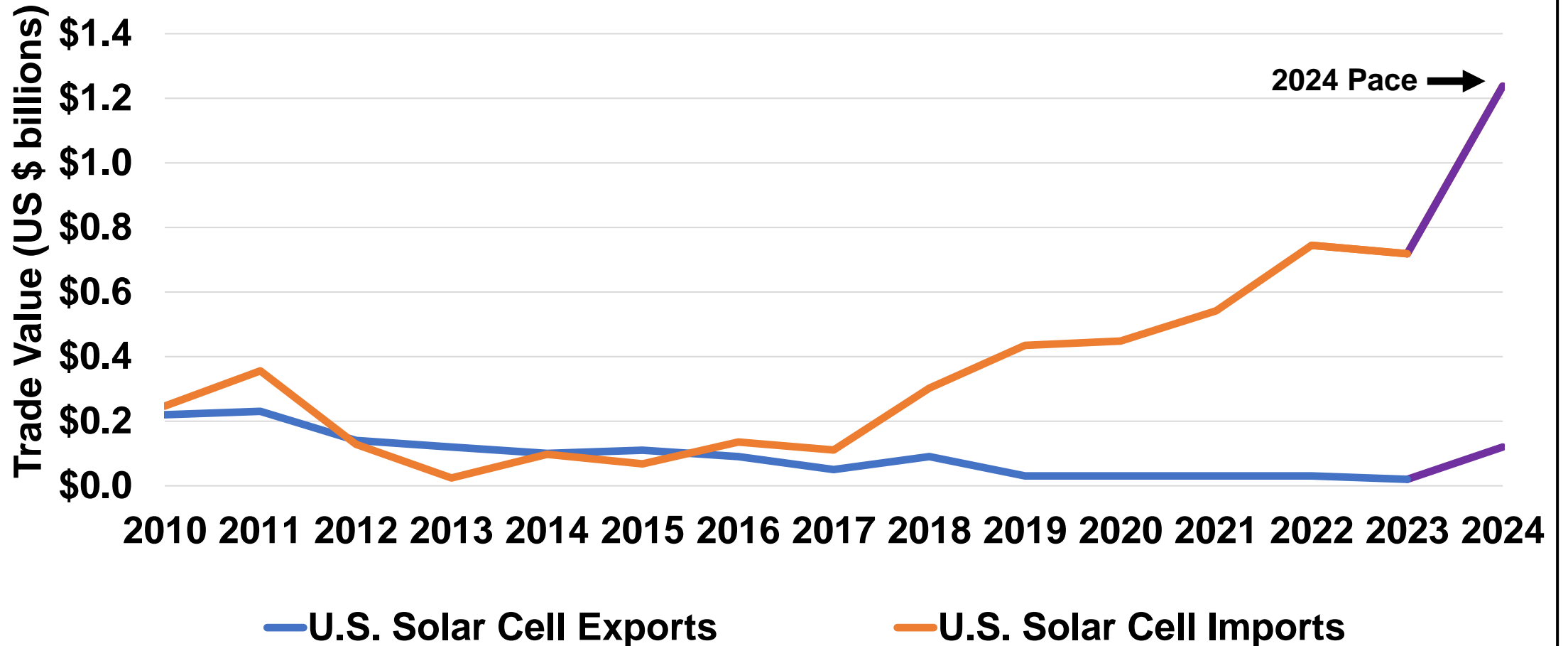
U.S. PV Cell Imports by Country



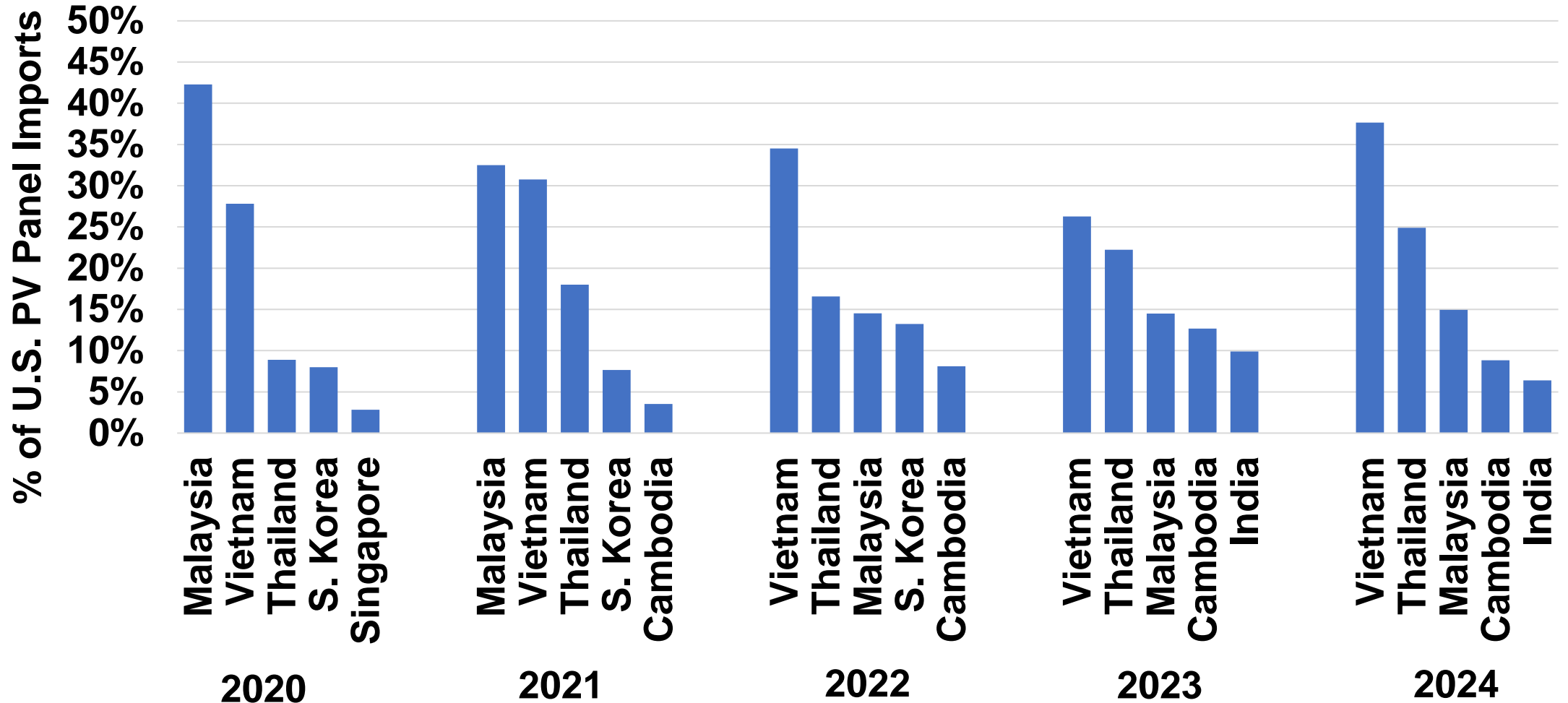
Annual U.S. PV Panel Trade through March 2024



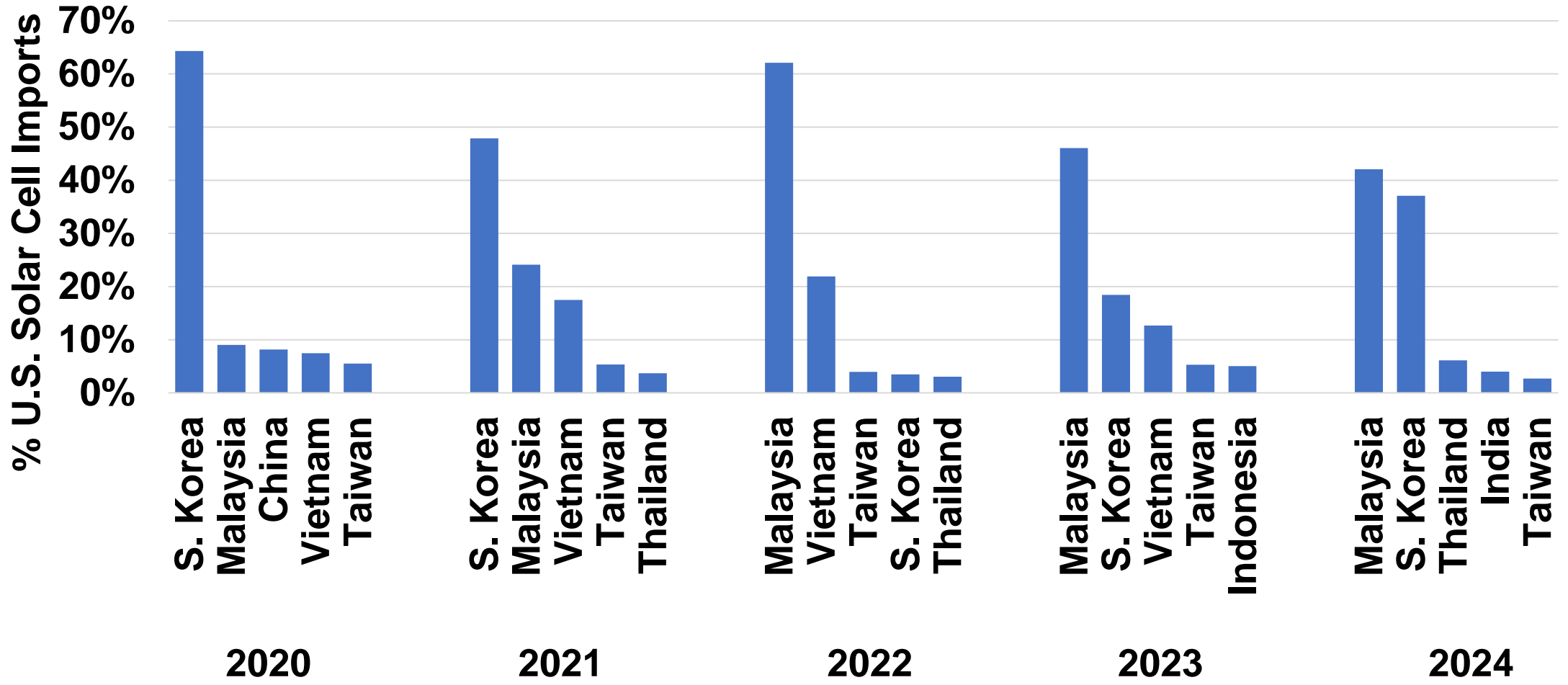
Annual U.S. PV Cell Trade through March 2024



Annual U.S. PV Panel Imports Rank Order of Countries Year-to-Date through March 2024



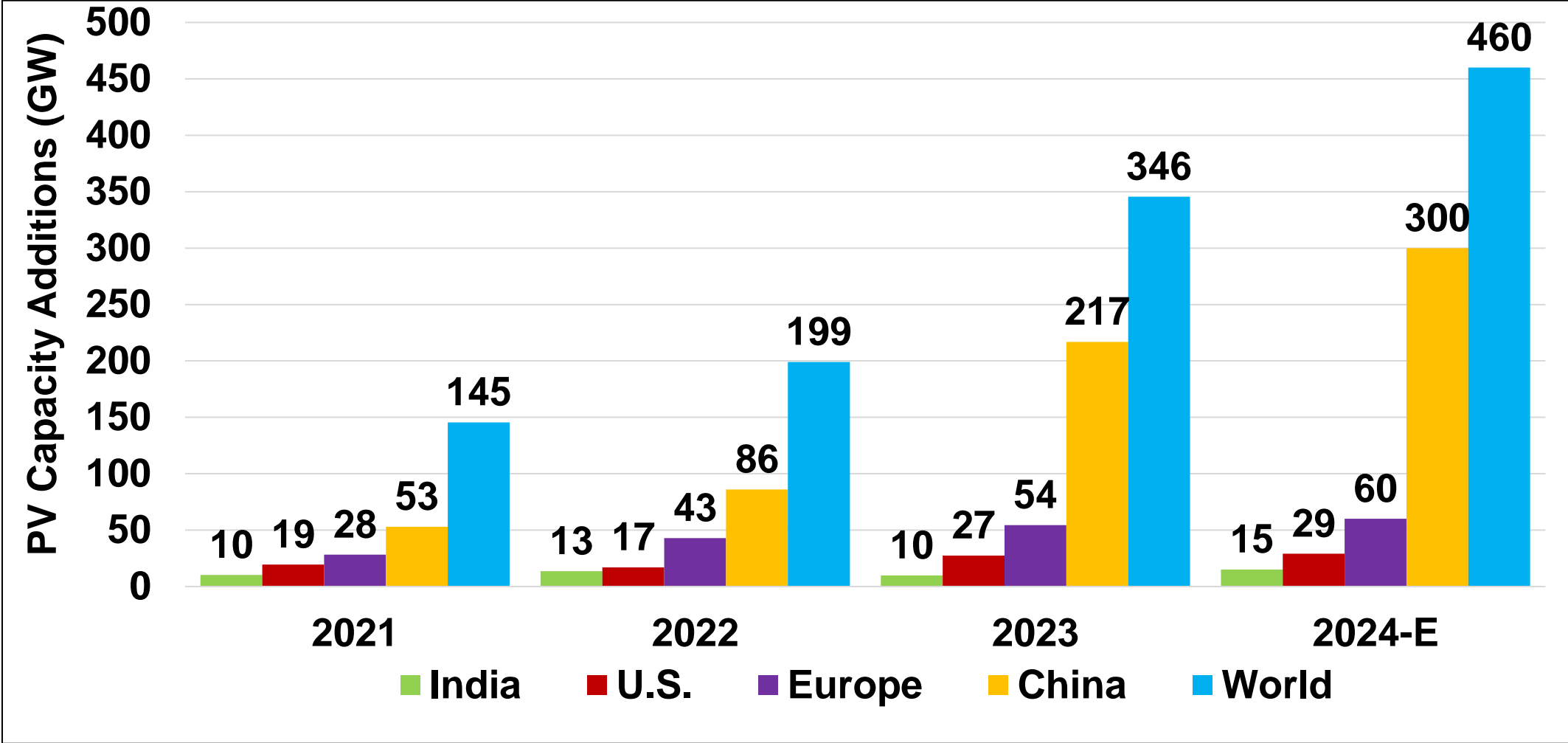
Annual U.S. PV Cell Imports Rank Order of Countries Year-to-Date through March 2024



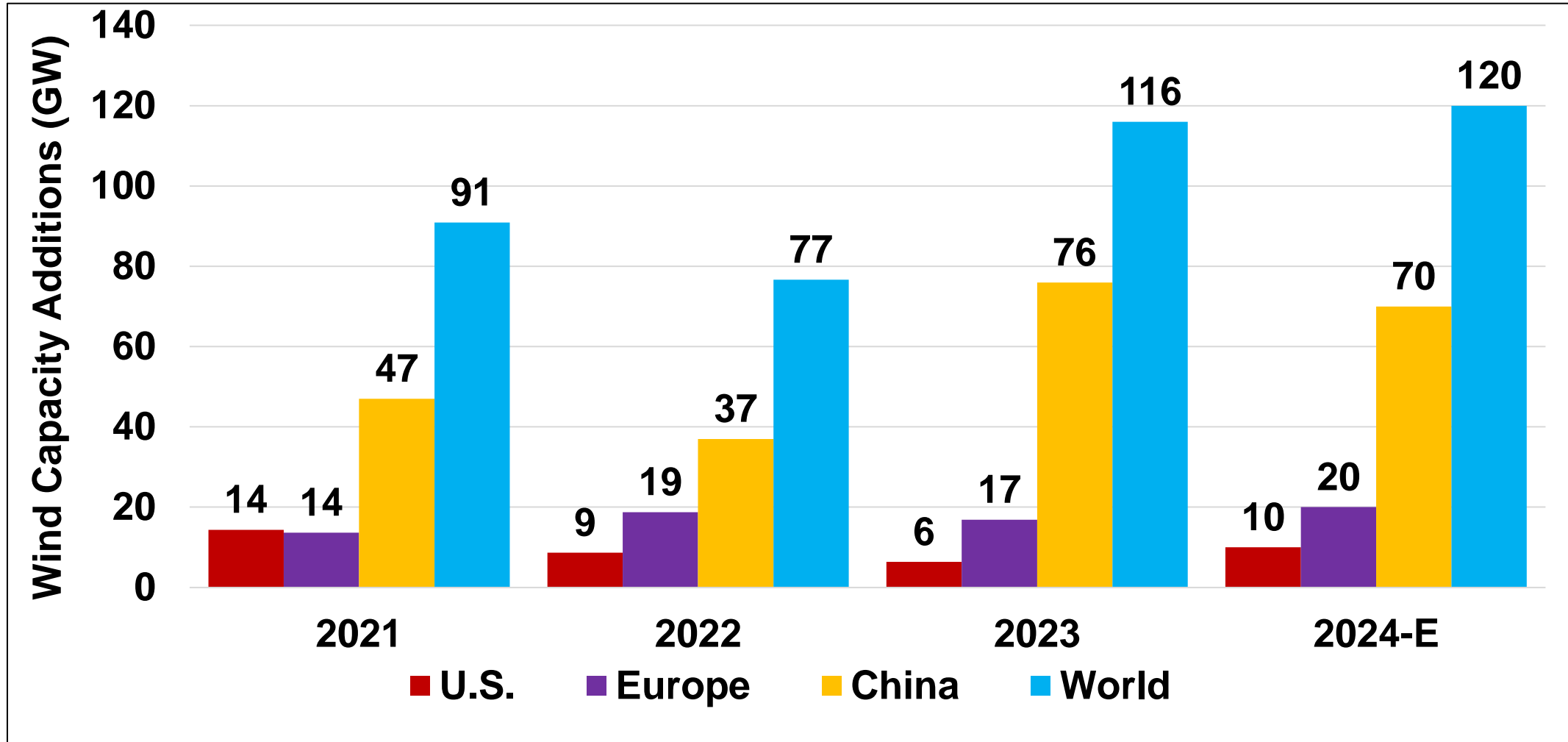


World PV and Wind

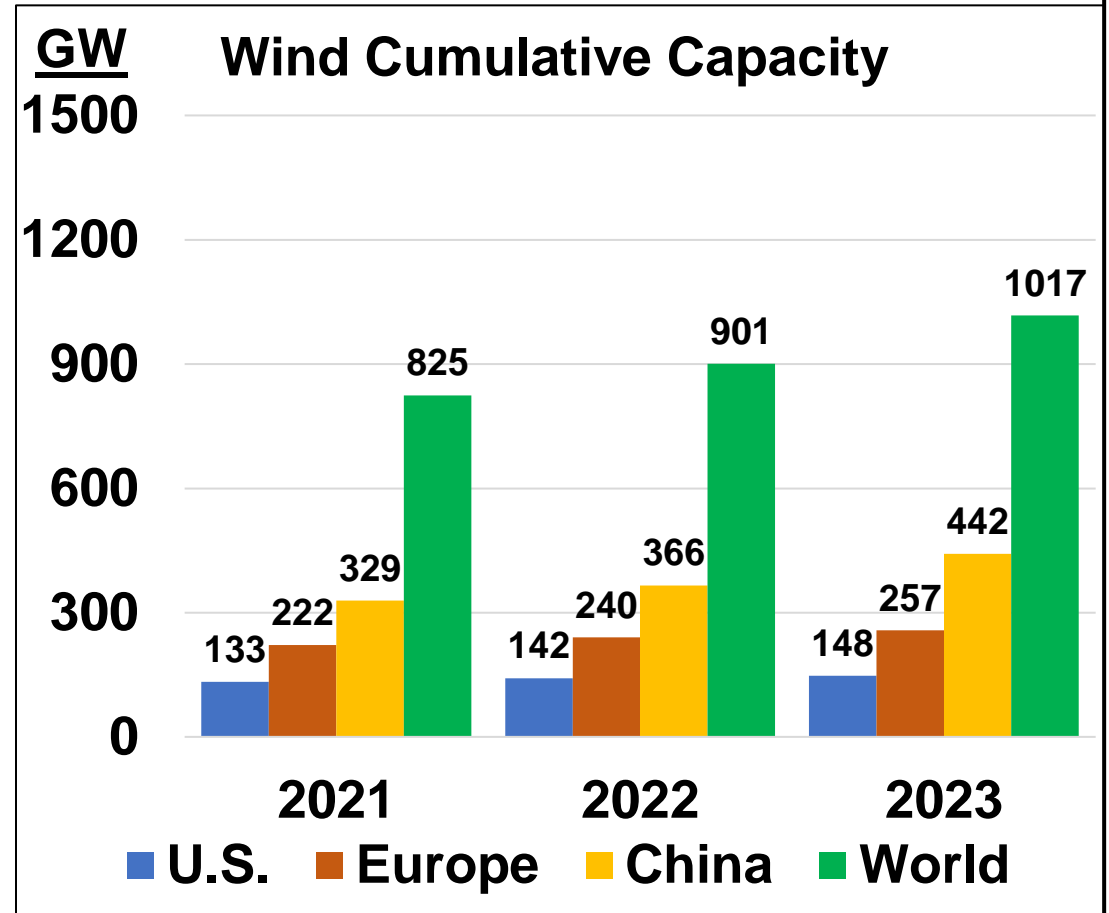
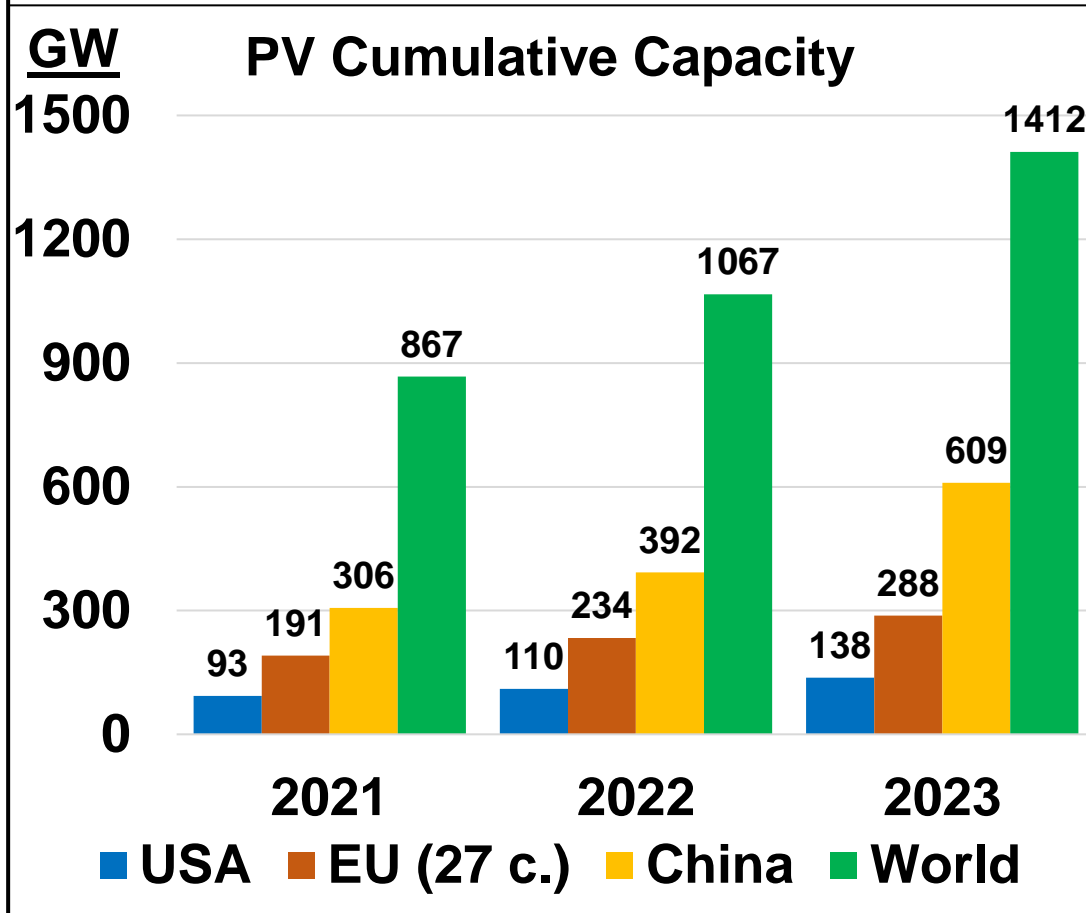
World PV Capacity Additions, 2021-2023 2024 Forecast



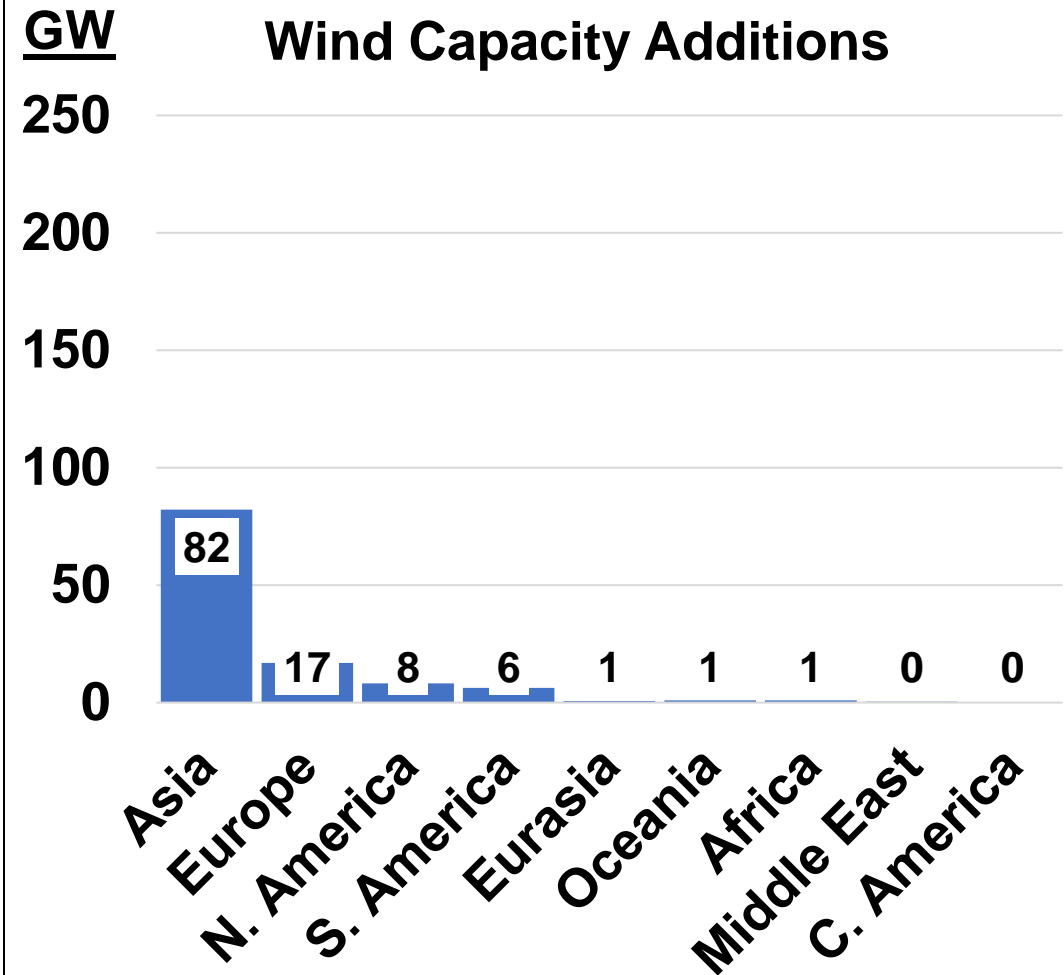
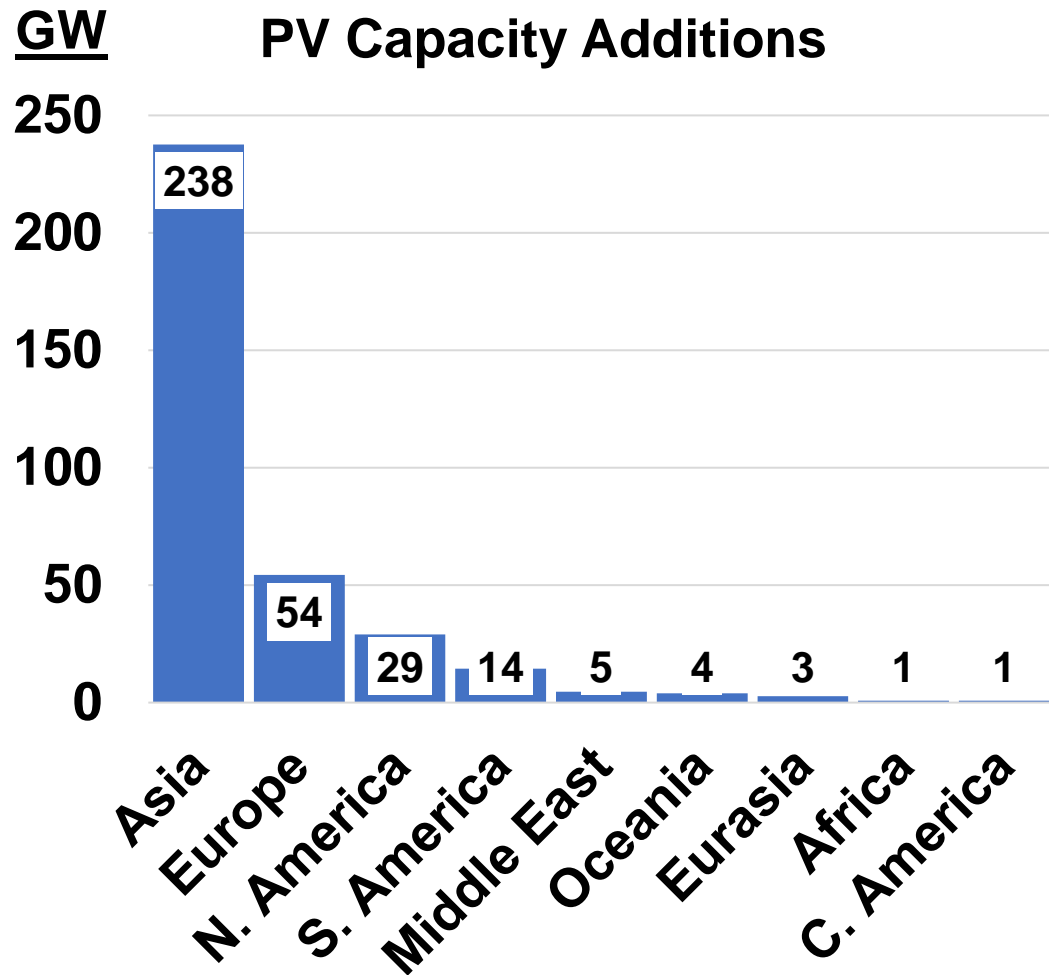
World Wind Capacity Additions, 2021-2023 2024 Forecast



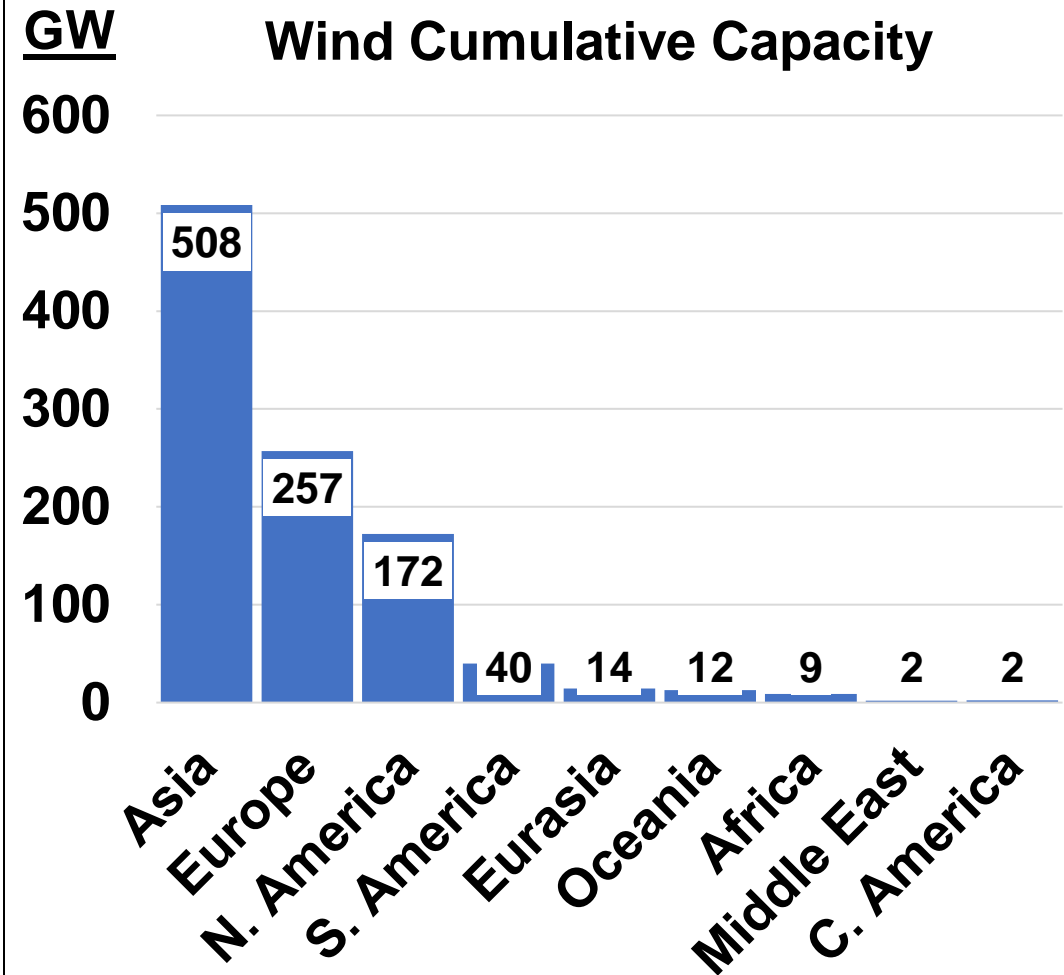
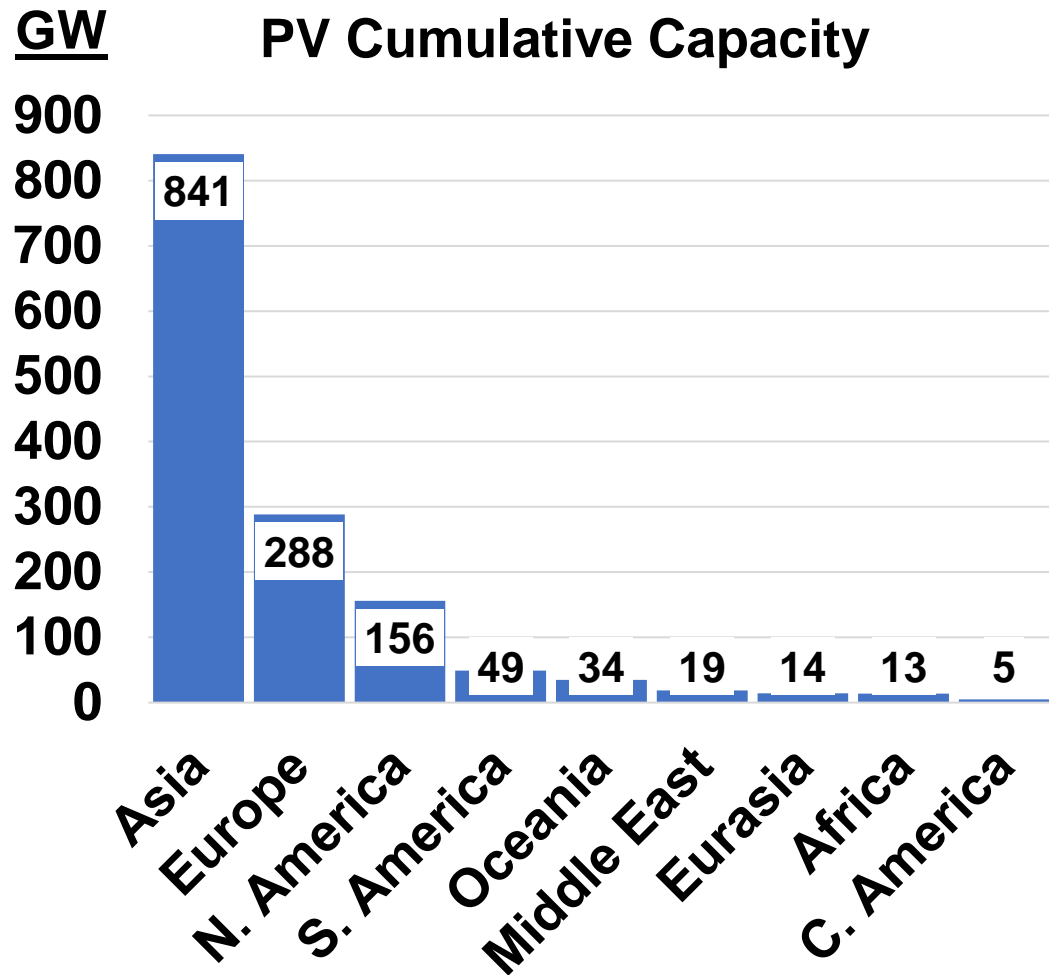
2023 PV and Wind World Cumulative Capacity



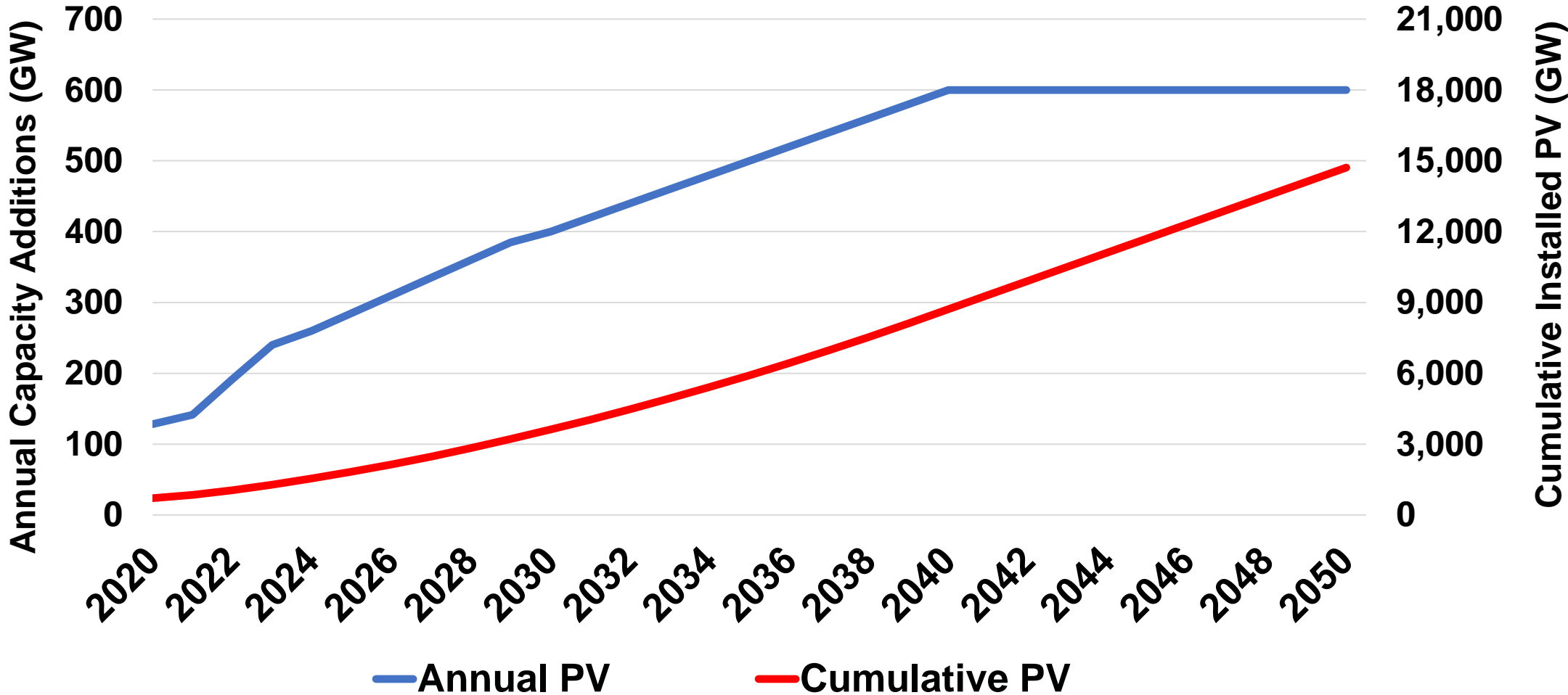
2023 World Regional PV and Wind Capacity Additions



2023 World Regional PV and Wind Cumulative Capacity



ASAP's World PV Forecast through 2050

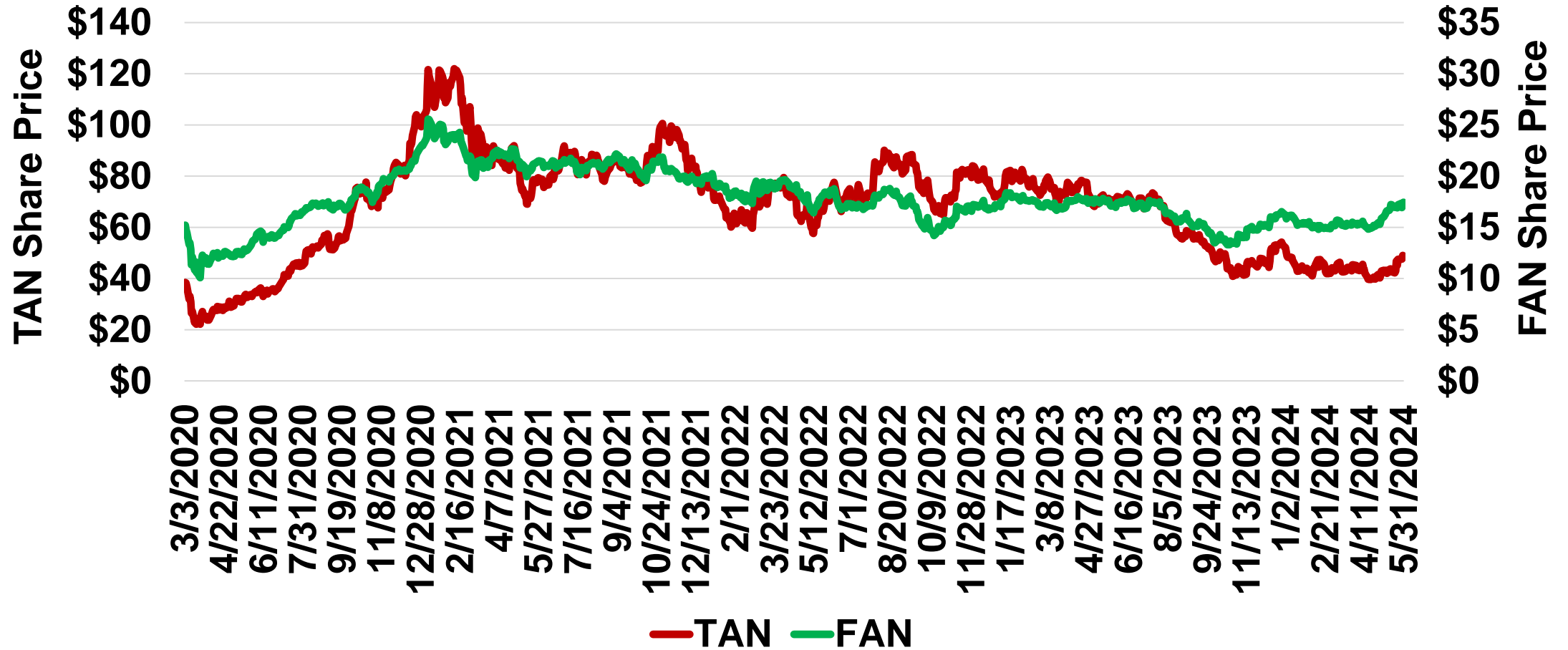




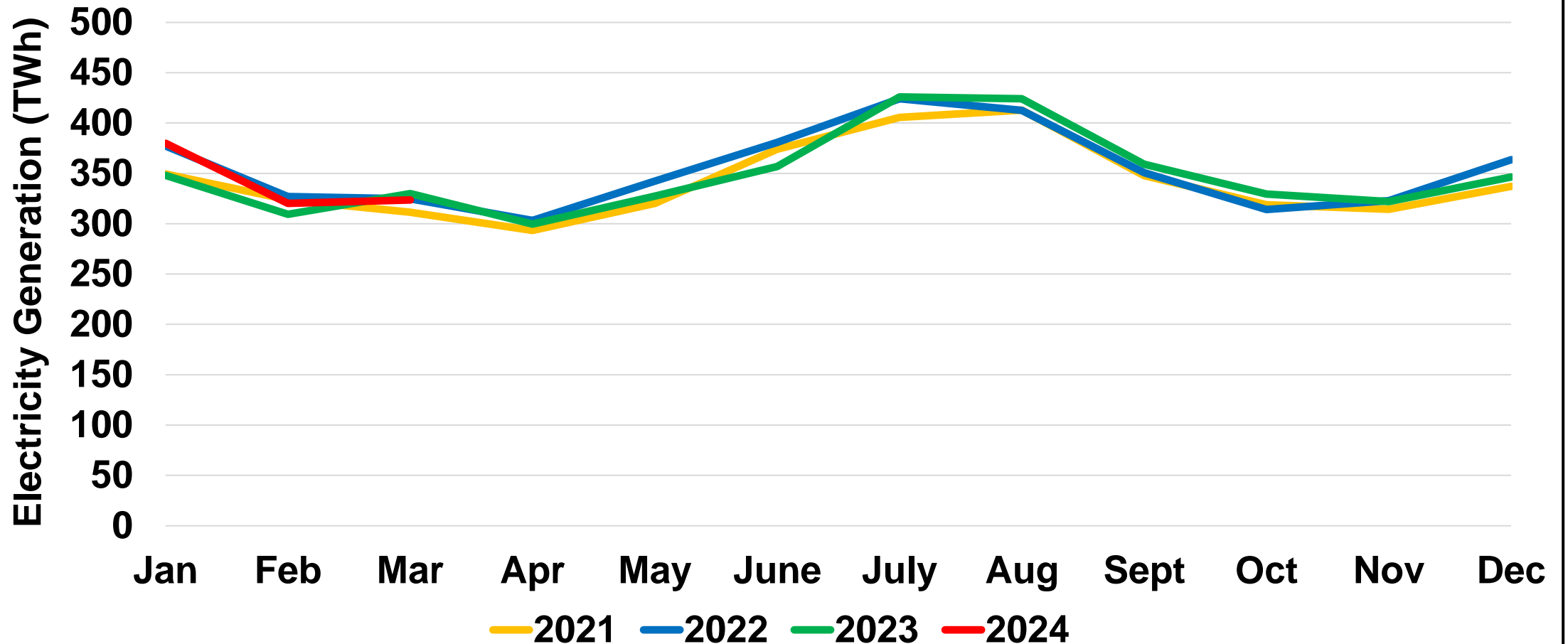
U.S. Electricity Market Overview

TAN and FAN Stock Prices
Monthly Electricity Supply and Demand
Electricity and Energy CO₂ Emissions

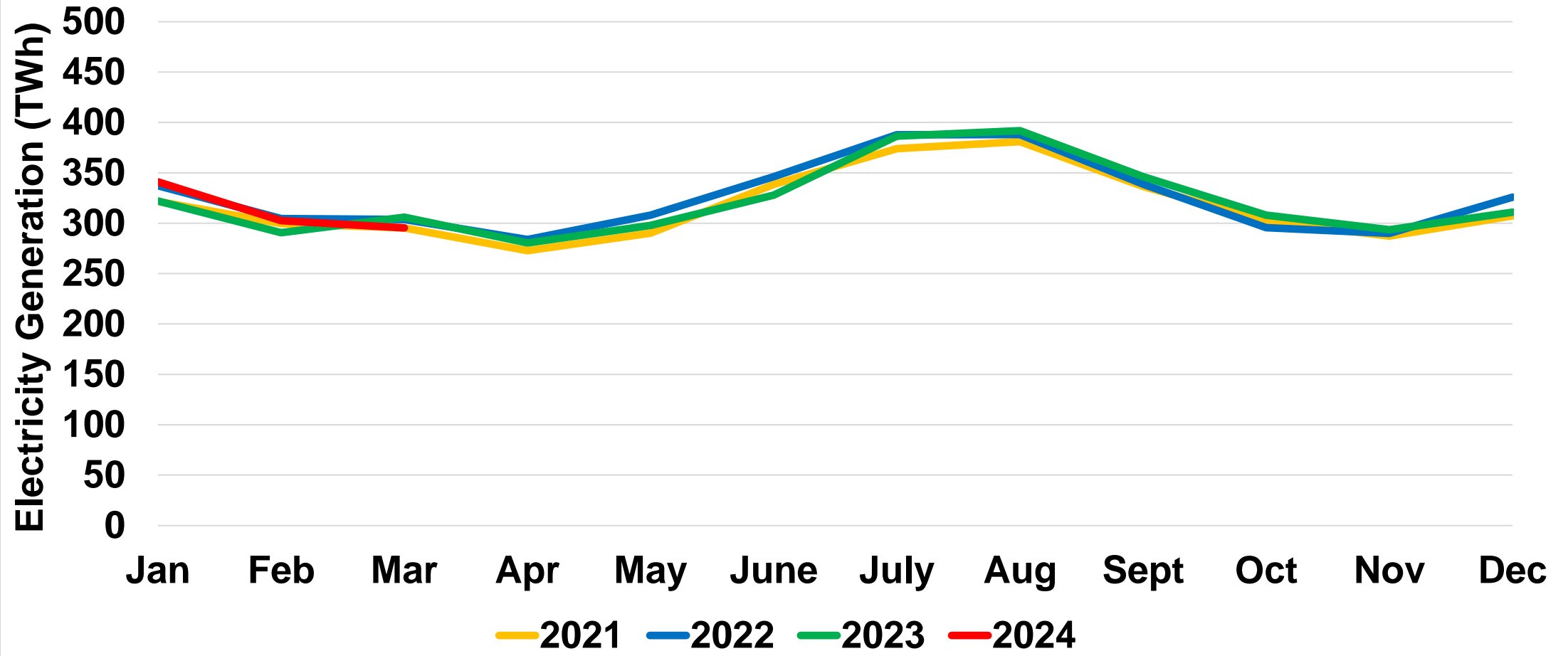
TAN (Solar) and FAN (Wind) ETF Share Prices Adjusted Close Prices through May 31, 2024



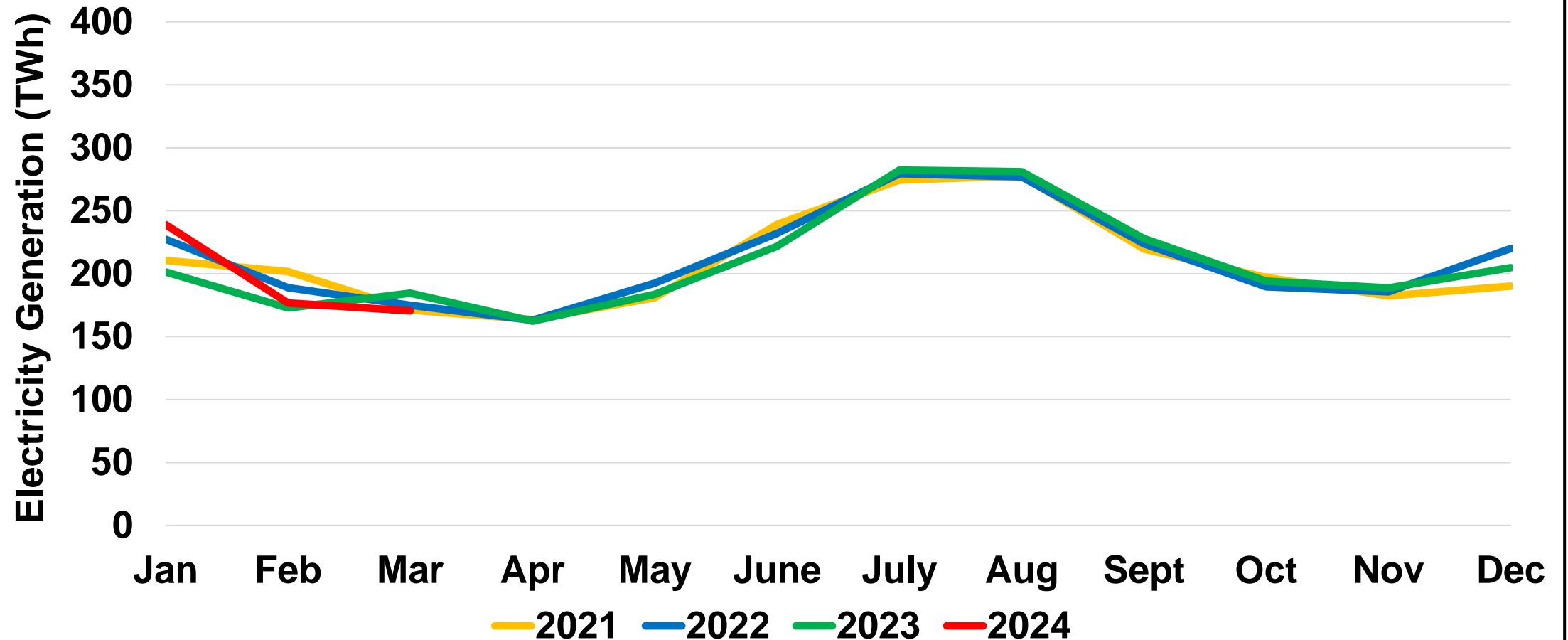
U.S. Total Electricity Generation Year-on-Year (through March 2024)



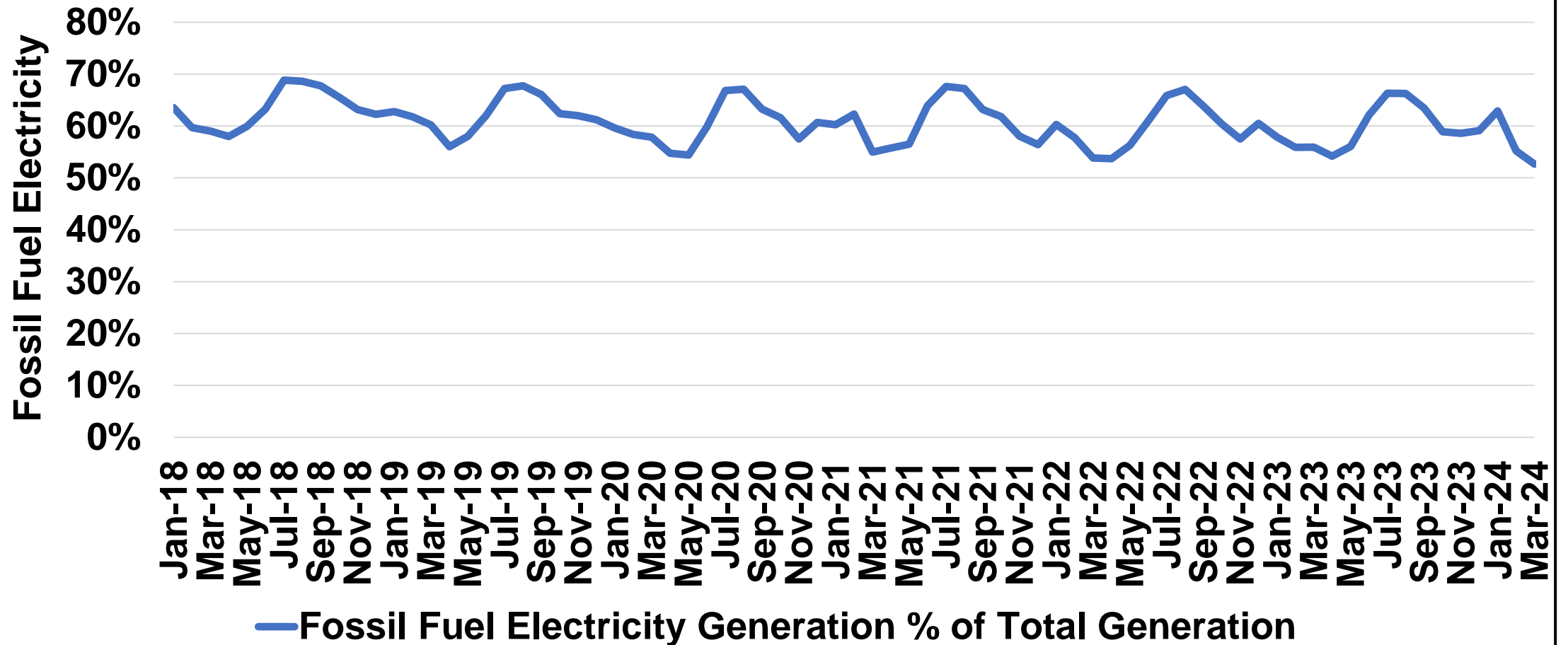
U.S. Total Electricity Demand (Retail Sales) Year-on-Year (through March 2024)



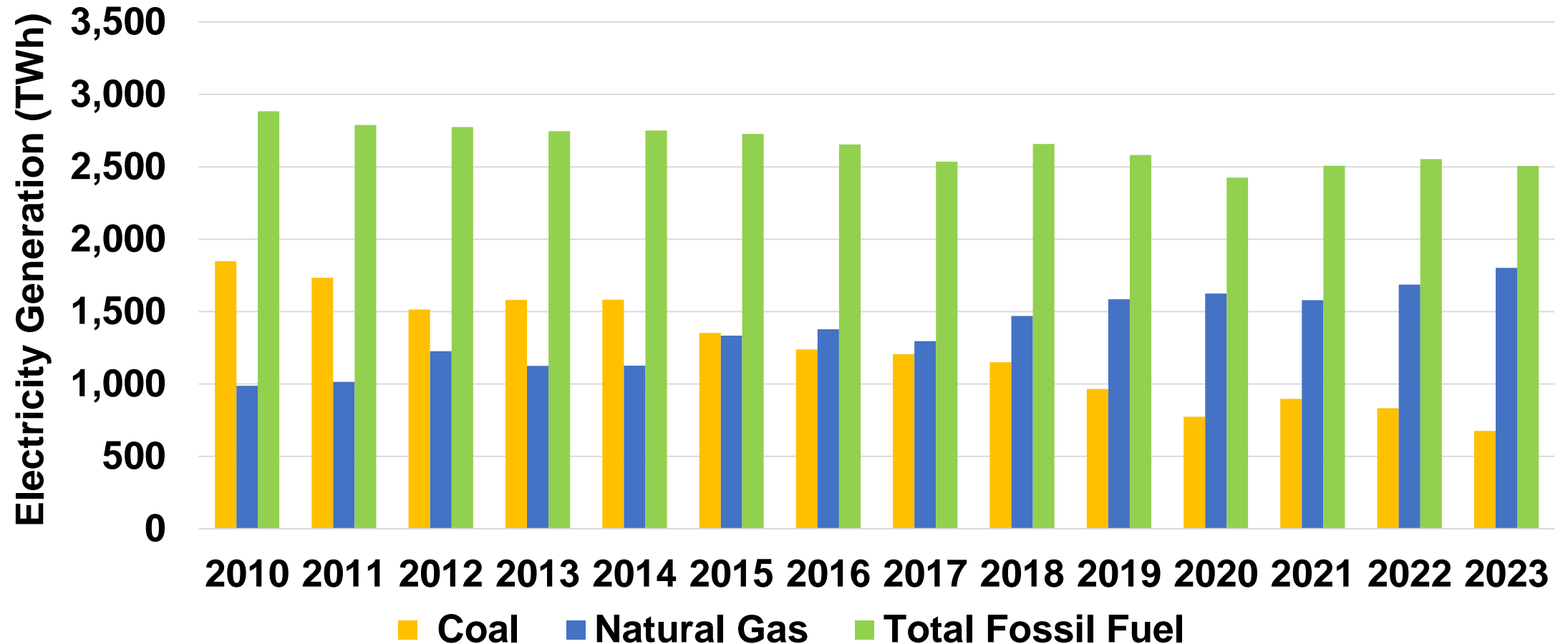
U.S. Fossil Fuel Electricity Generation Year-on-Year (through March 2024)



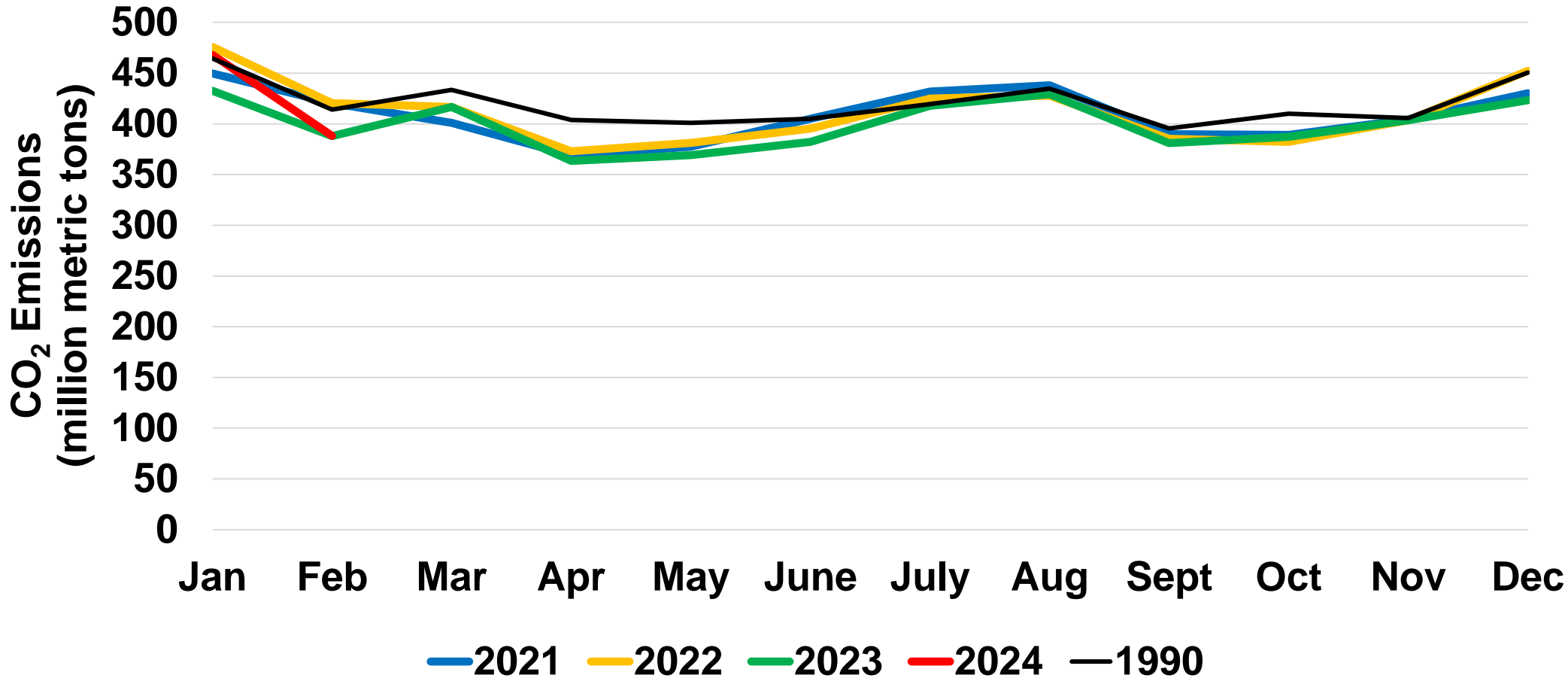
U.S. Fossil Fuel Electricity % of Total Generation through March 2024



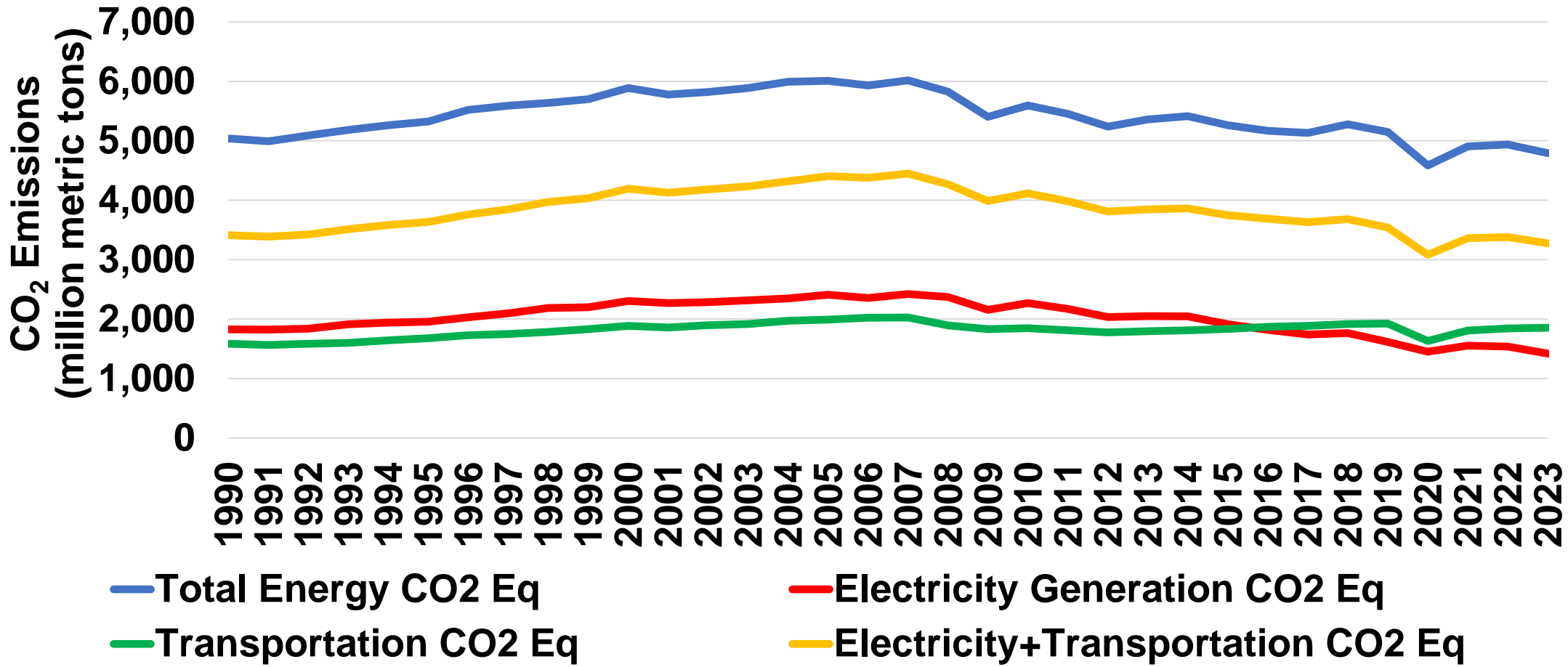
U.S. Annual Fossil Fuel Electricity Generation (2010-2023)



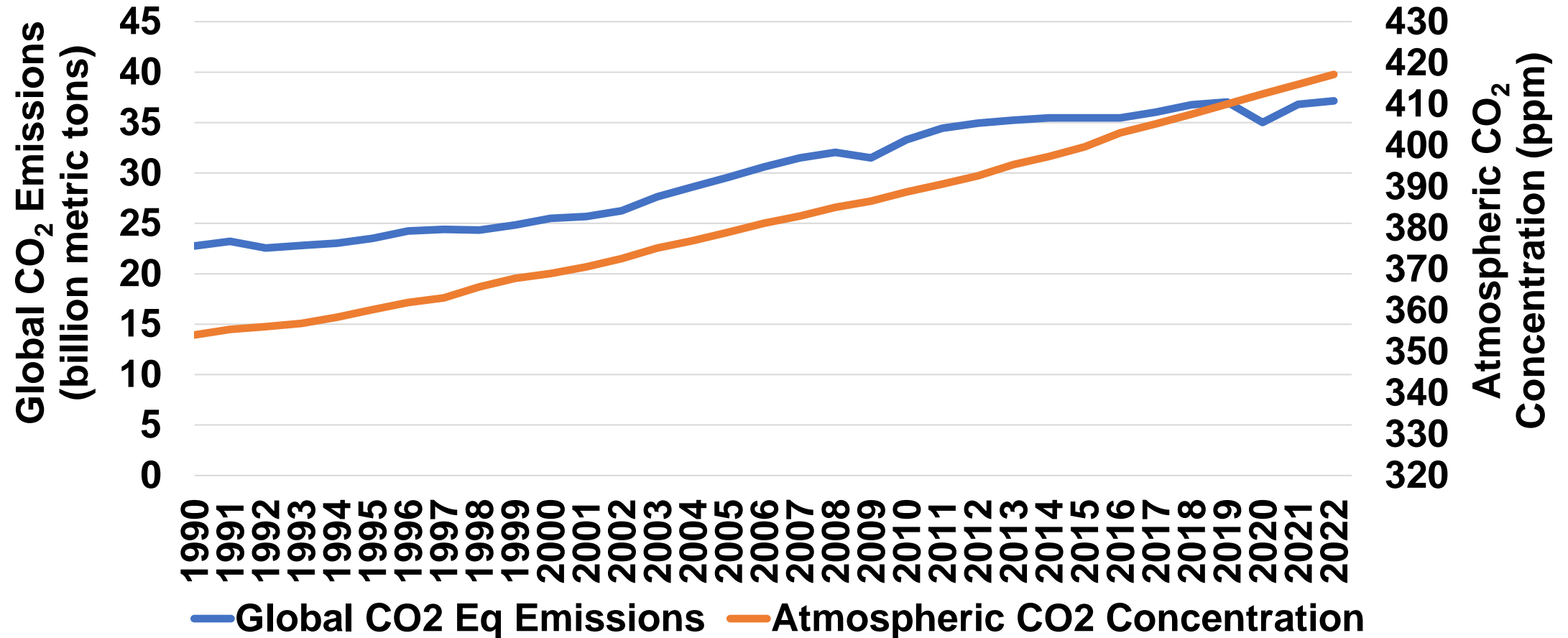
U.S. Monthly Energy Use CO₂ Equivalent Emissions (through February 2024)



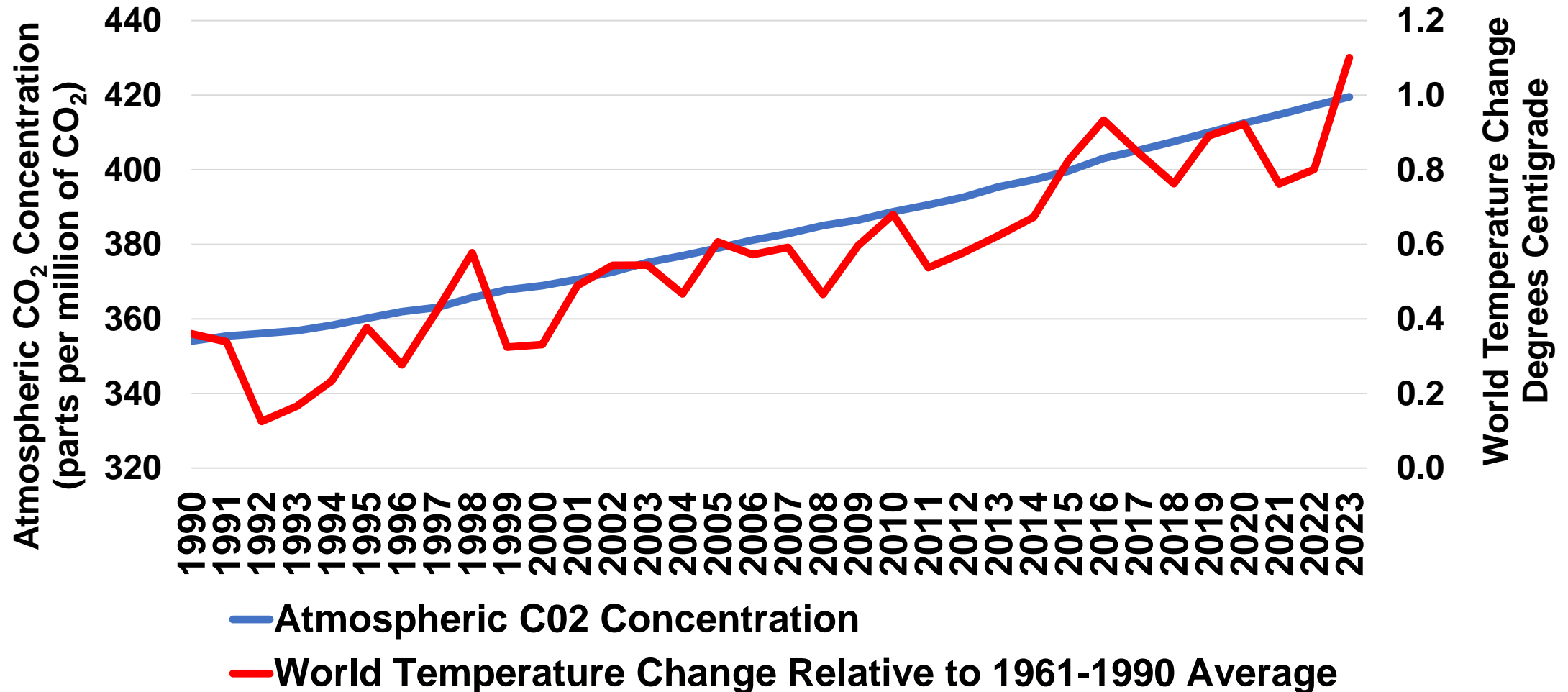
U.S. Fossil Fuel CO₂ Equivalent Emissions (1990-2023)



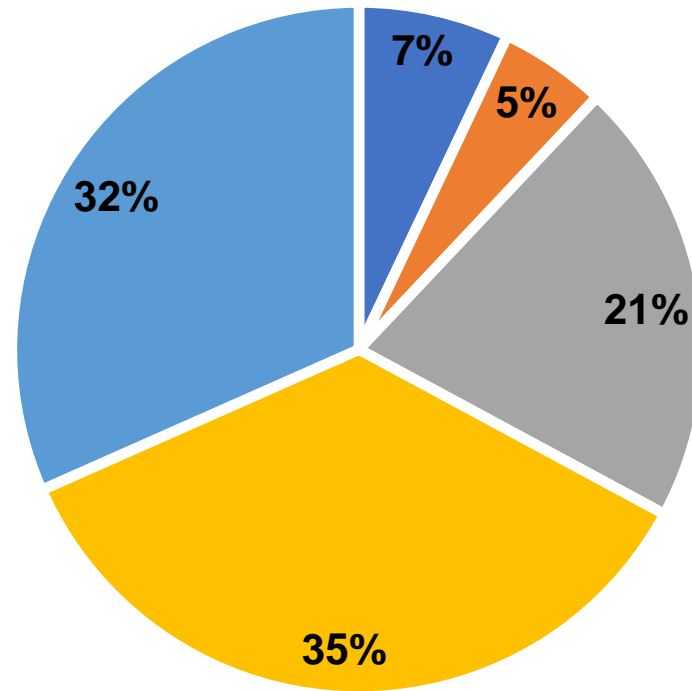
World CO₂ Emissions and Atmospheric CO₂ Concentration (1990-2022)



World Temperature and Atmospheric CO₂ Concentration (1990-2023)



U.S. Energy CO₂ Emissions by Sector (2020)



■ Residential ■ Commercial ■ Industrial ■ Transportation ■ Electric Power

ASAP Regional Map

