



ASAP

(American Solar Action Plan)

PV-Wind Monthly Data Slideshow

June 2022

ASAP

Website: www.solarplan.org

Contact: james.mason@solarplan.org

Highlights – March 2022



- PV and wind capacity additions are a healthy 1,734 MW and 1,302 MW respectively
 - These PV and wind capacity additions are on an annual pace slightly below the 2022 forecast
 - MW = megawatts; GW = gigawatts (1000 MW); TW = terawatts (1000 GW)
- Combined PV and wind electricity generation is 18.4% of total U.S. electricity generation, which sets a new record high. The PV share is 5.1%, and the wind share is 13.3%.
- The U.S. Commerce Department decides to investigate the sources of materials contained in Southeast Asia PV imports to determine if Chinese tariffs are warranted
 - This could increase the price of PV imports, which represent a sizeable portion of U.S. PV
 - This is creating concern about the financial impacts on the U.S. PV market if import tariffs are deemed appropriate and are applied retroactively
- PV panel and cell imports are strong in March with over \$600 million in PV panel imports and over \$80 million in PV cells

Slideshow Objectives

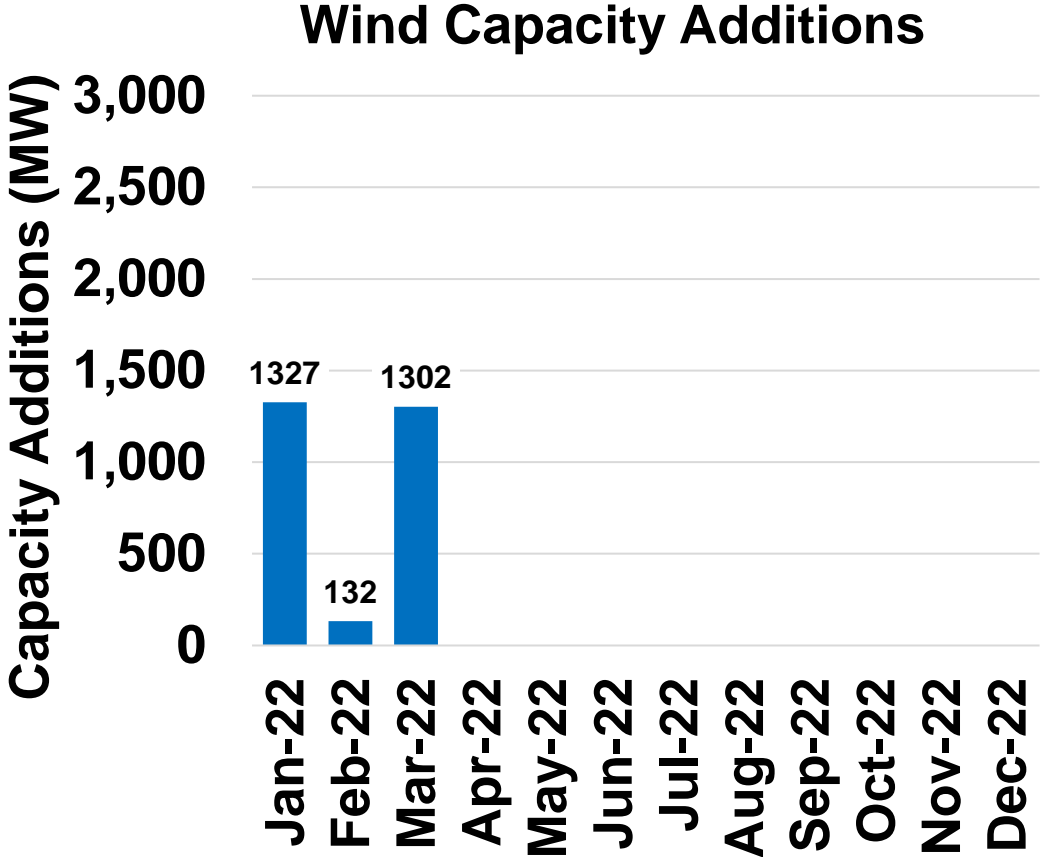
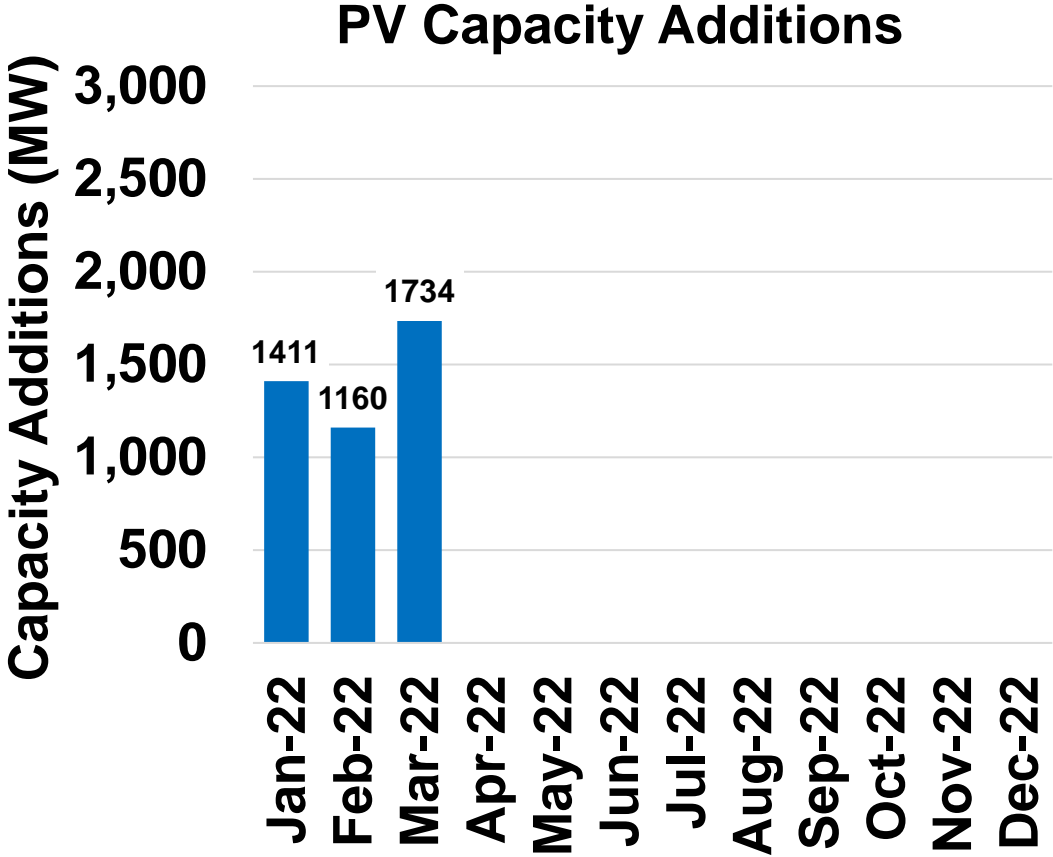


- To Document Monthly and Annual Growth in PV and Wind Capacity and Electricity Generation
 - MW = megawatts; GW = gigawatts (1000 MW); TW = terawatts (1000 GW)
- PV and Wind Capacity Additions
 - The Graphs Show Current and Past Year Monthly PV and Wind Capacity Additions
 - For Perspective, Compare 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

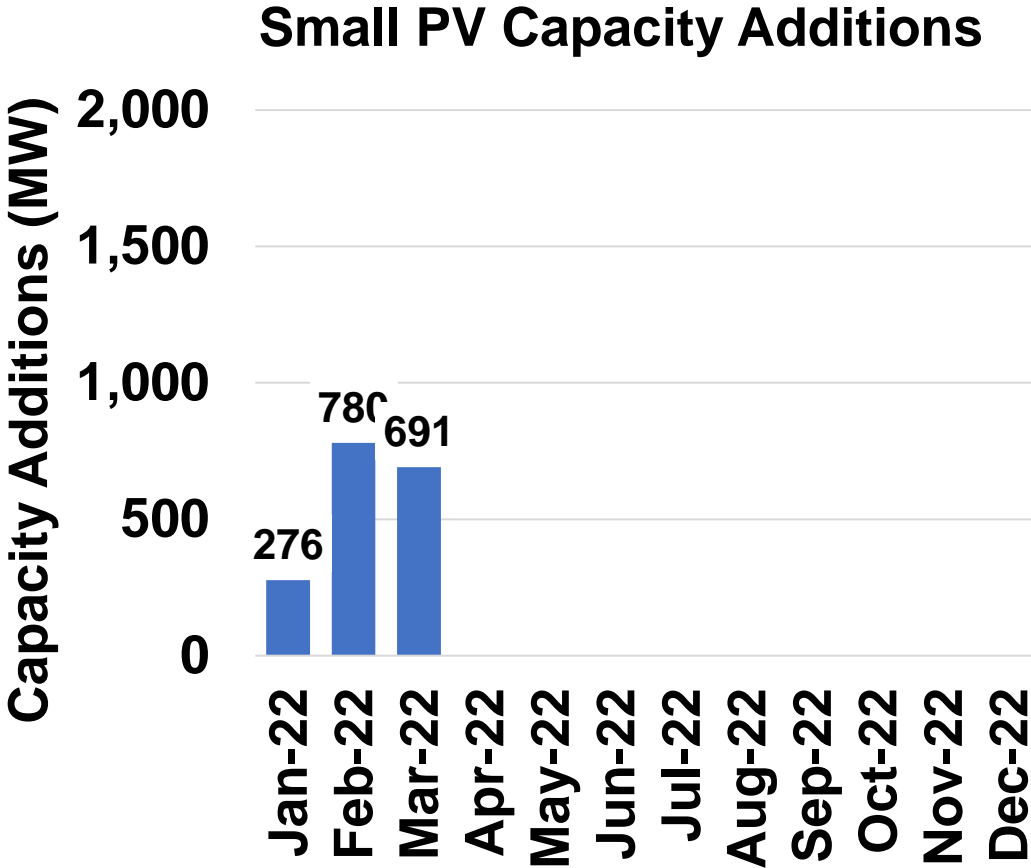
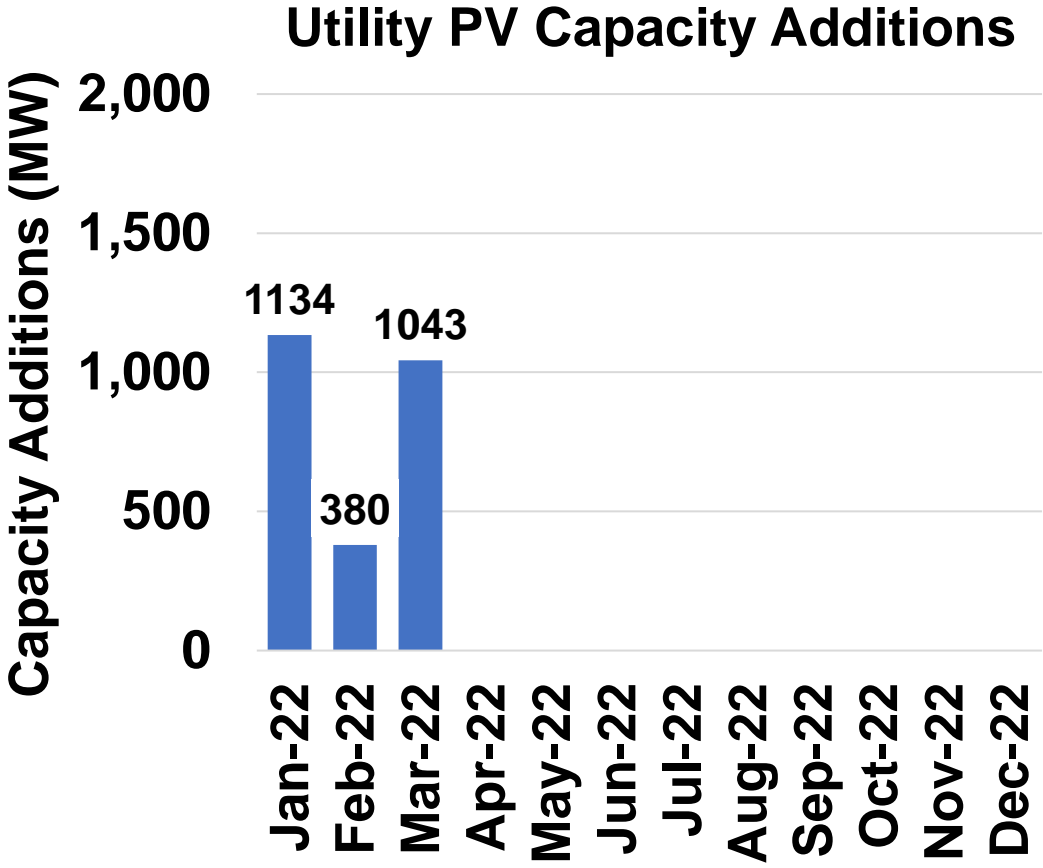


U.S. PV and Wind Capacities

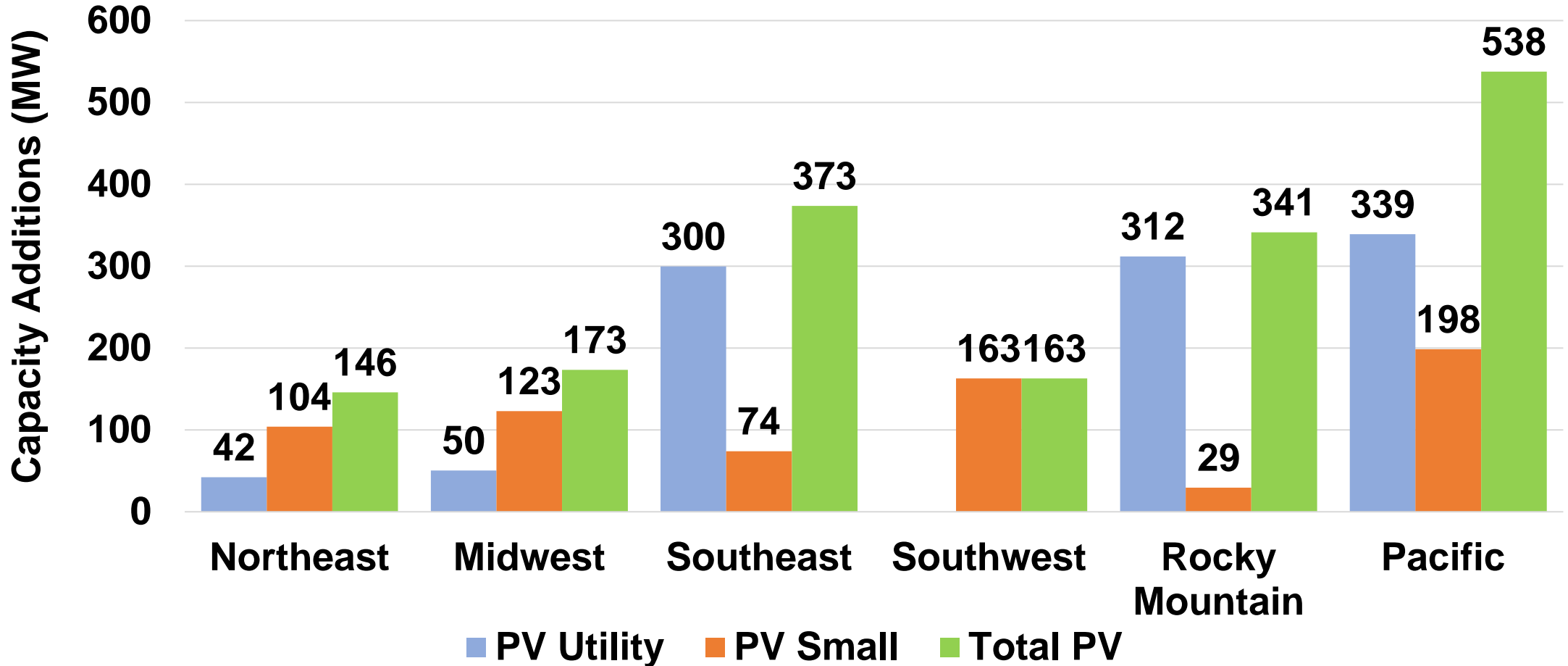
U.S. PV and Wind Monthly Capacity Additions 2022 (through March)



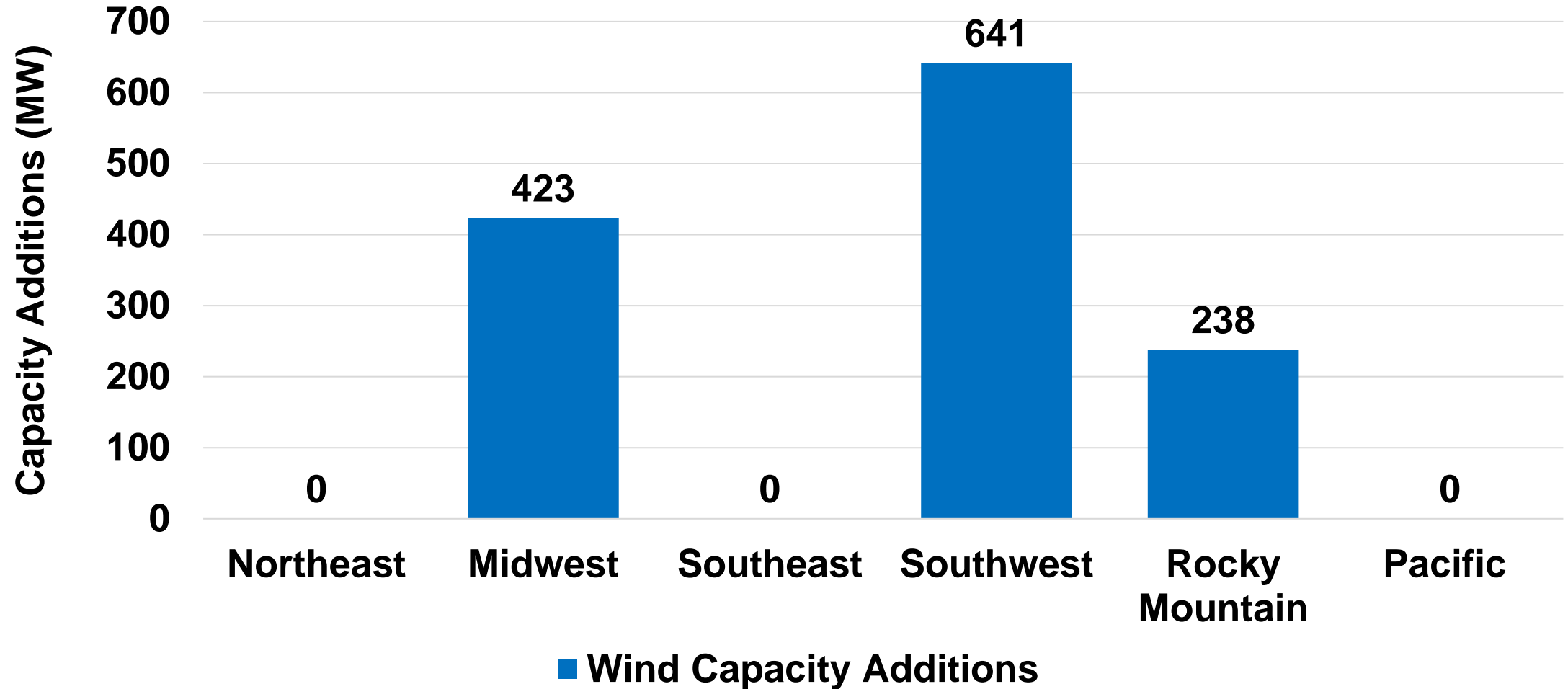
Monthly Utility and Small PV Capacity Additions 2022 (through March)



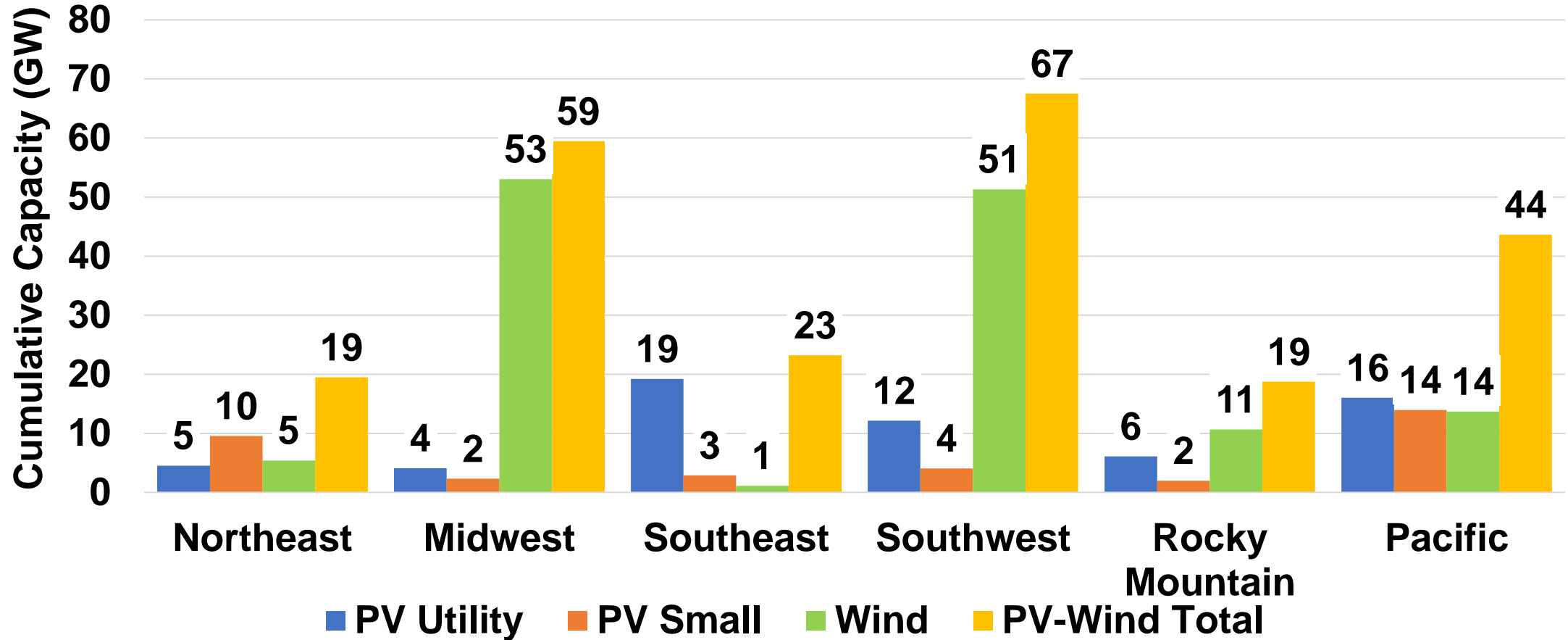
Regional PV Capacity Additions March 2022



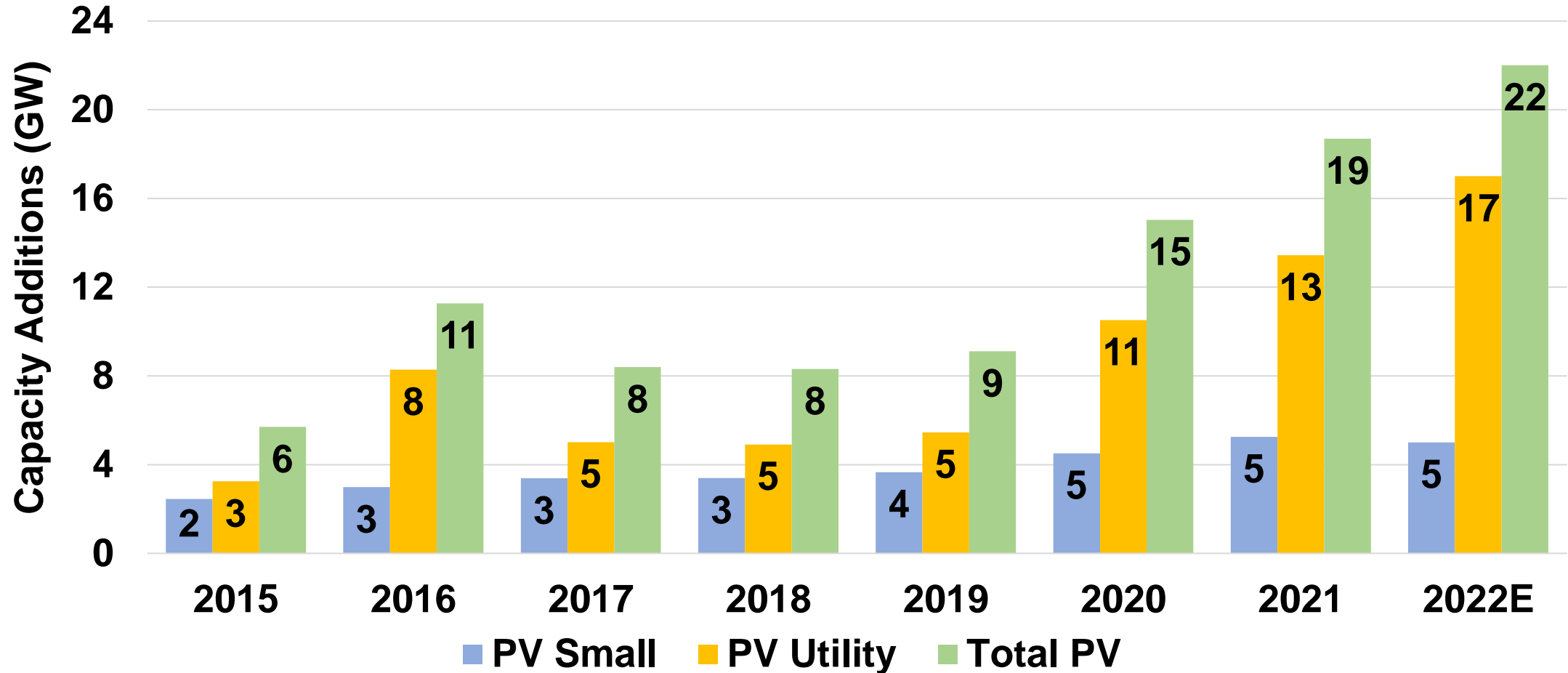
Regional Wind – Capacity Additions March 2022



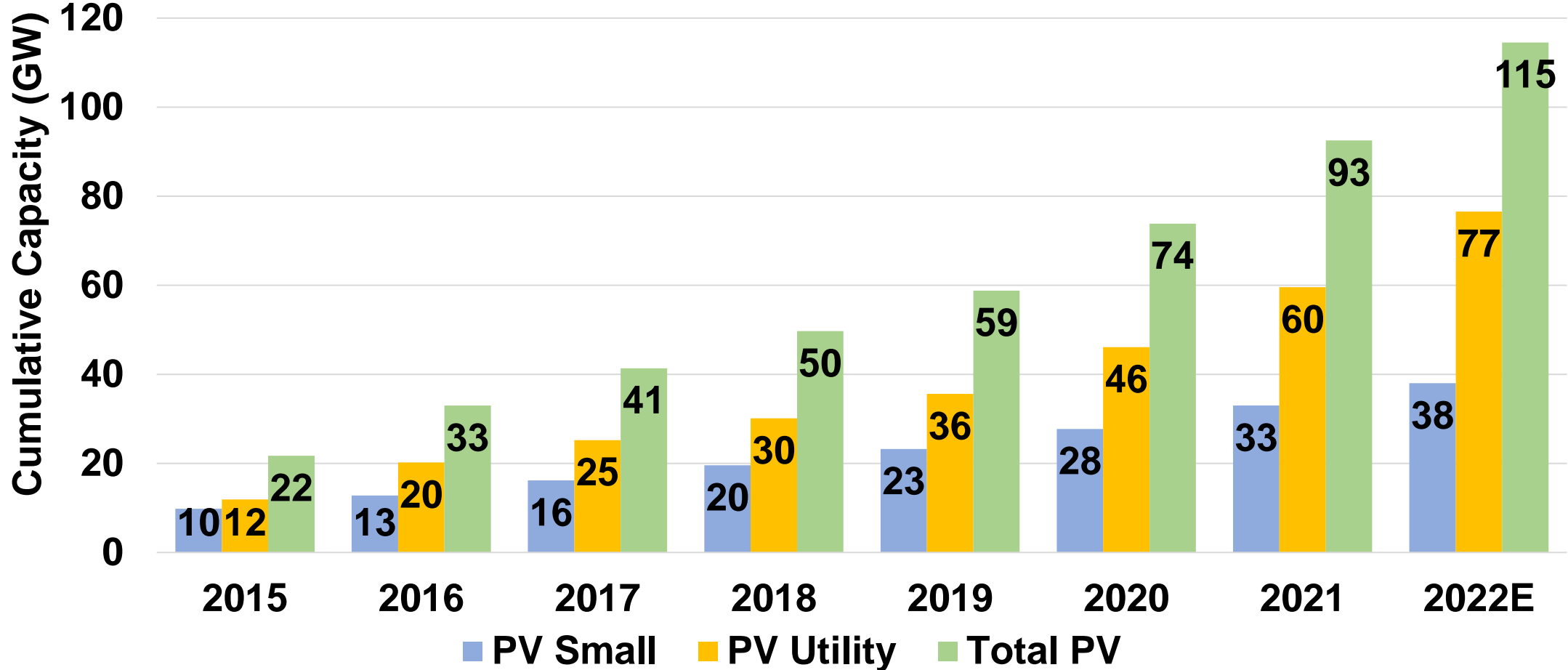
PV and Wind Cumulative Capacity by Region through March 2022



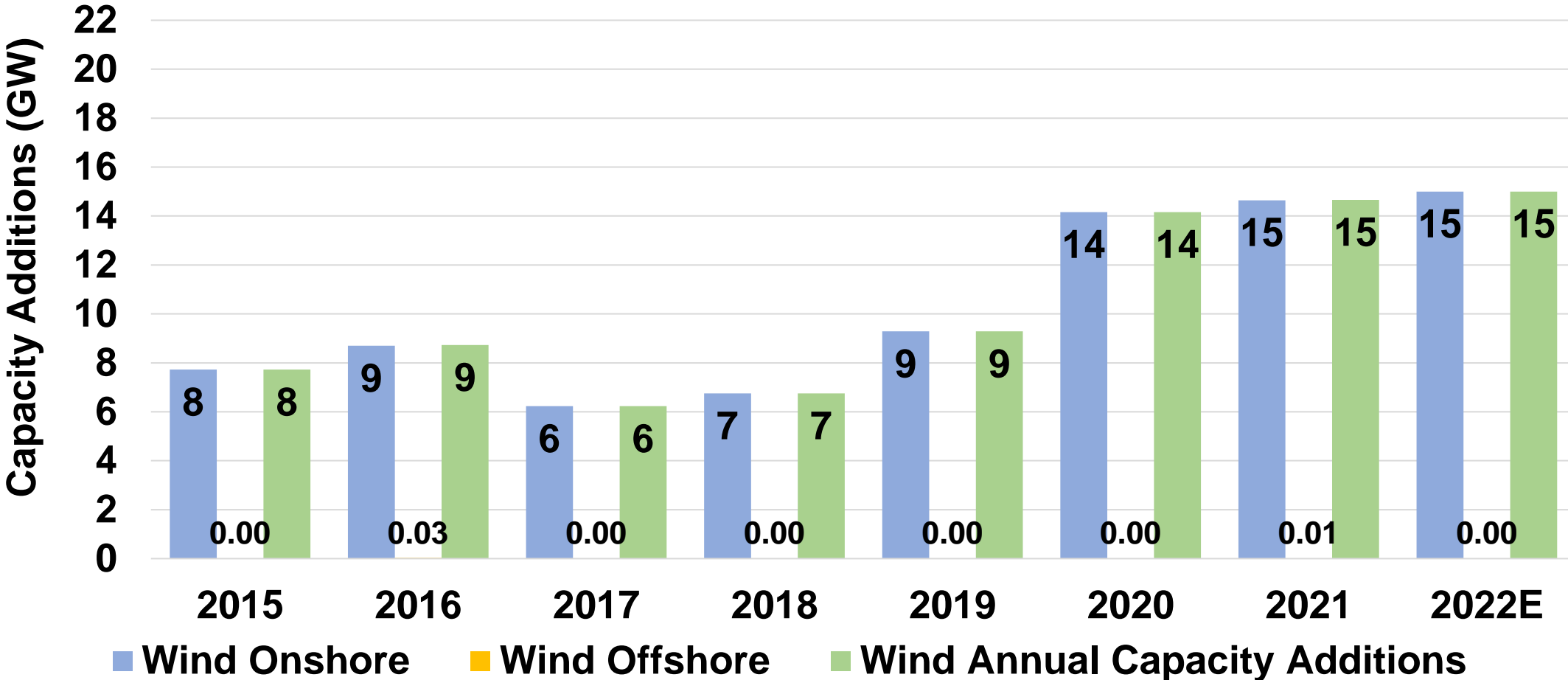
PV Annual Capacity Additions 2022 Forecast



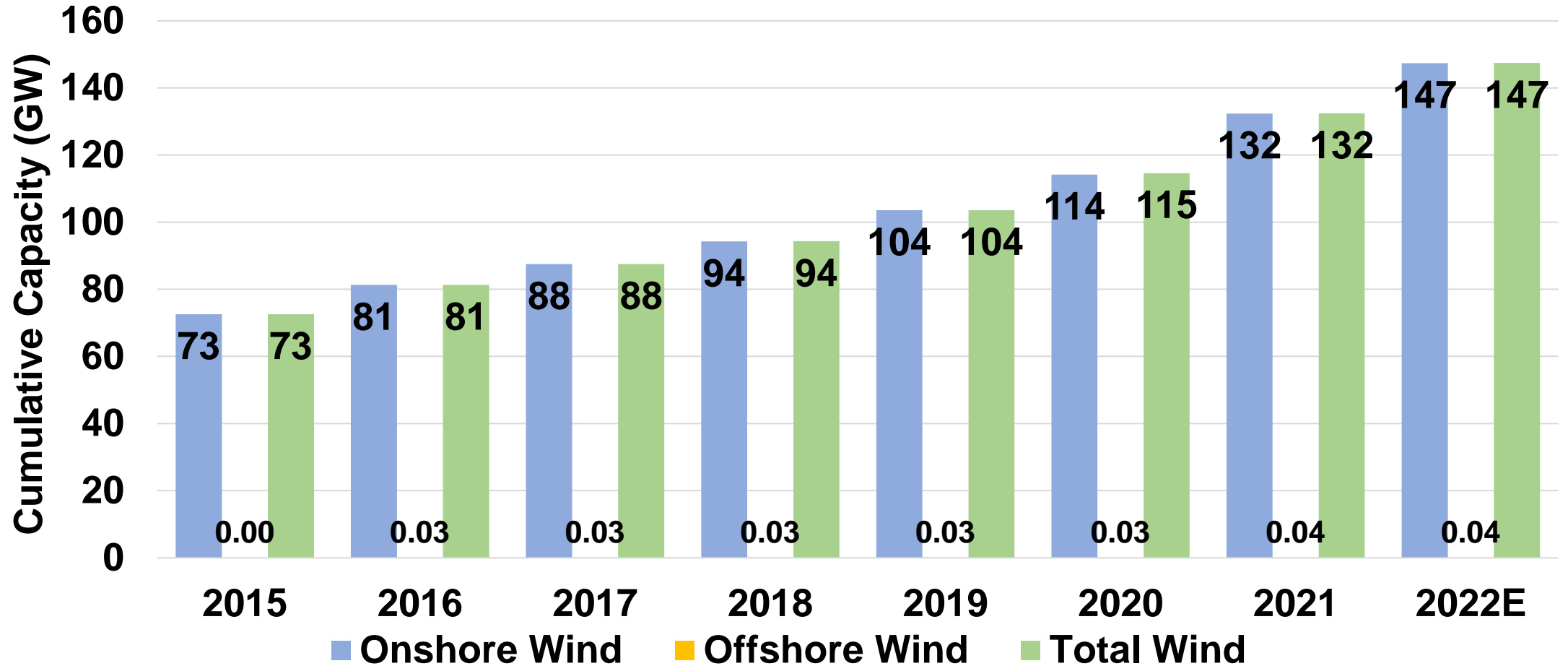
PV Annual Cumulative Capacity 2022 Forecast



Wind Annual Capacity Additions 2022 Forecast



Wind Annual Cumulative Capacity 2022 Forecast

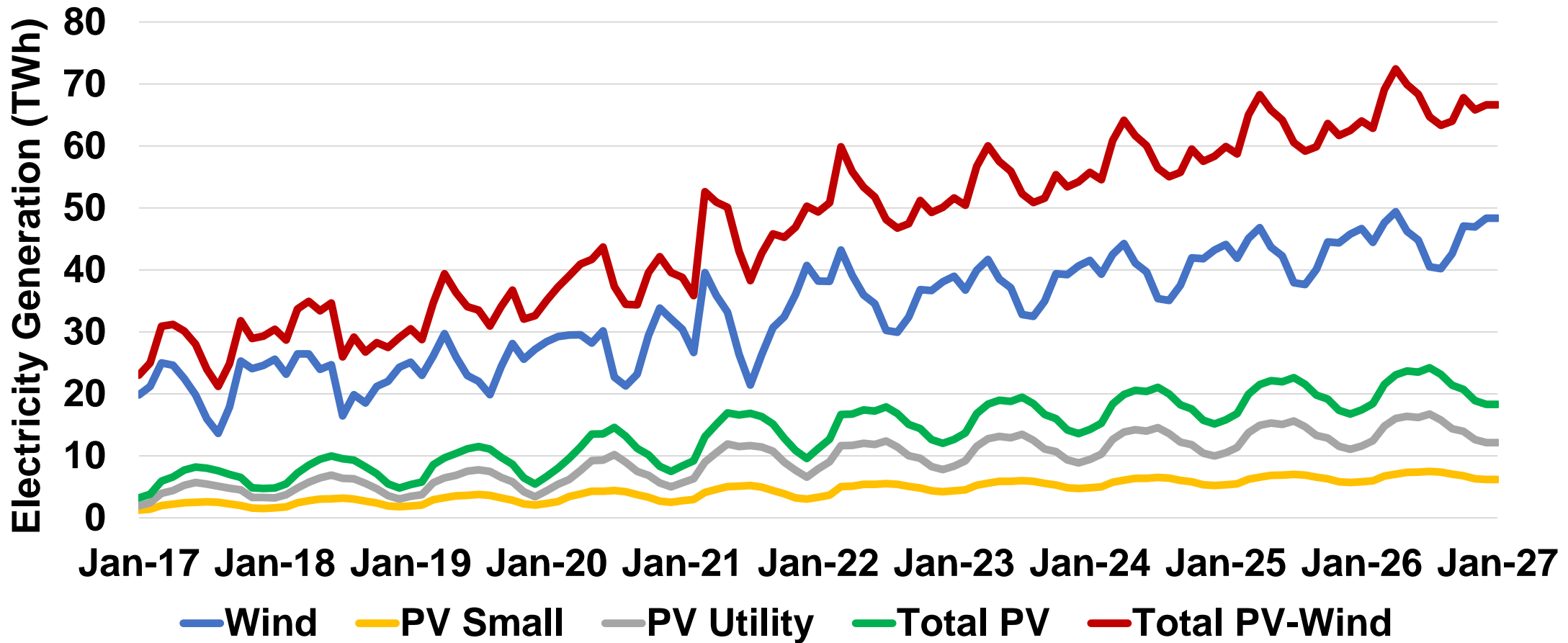




U.S. PV and Wind Electricity Generation

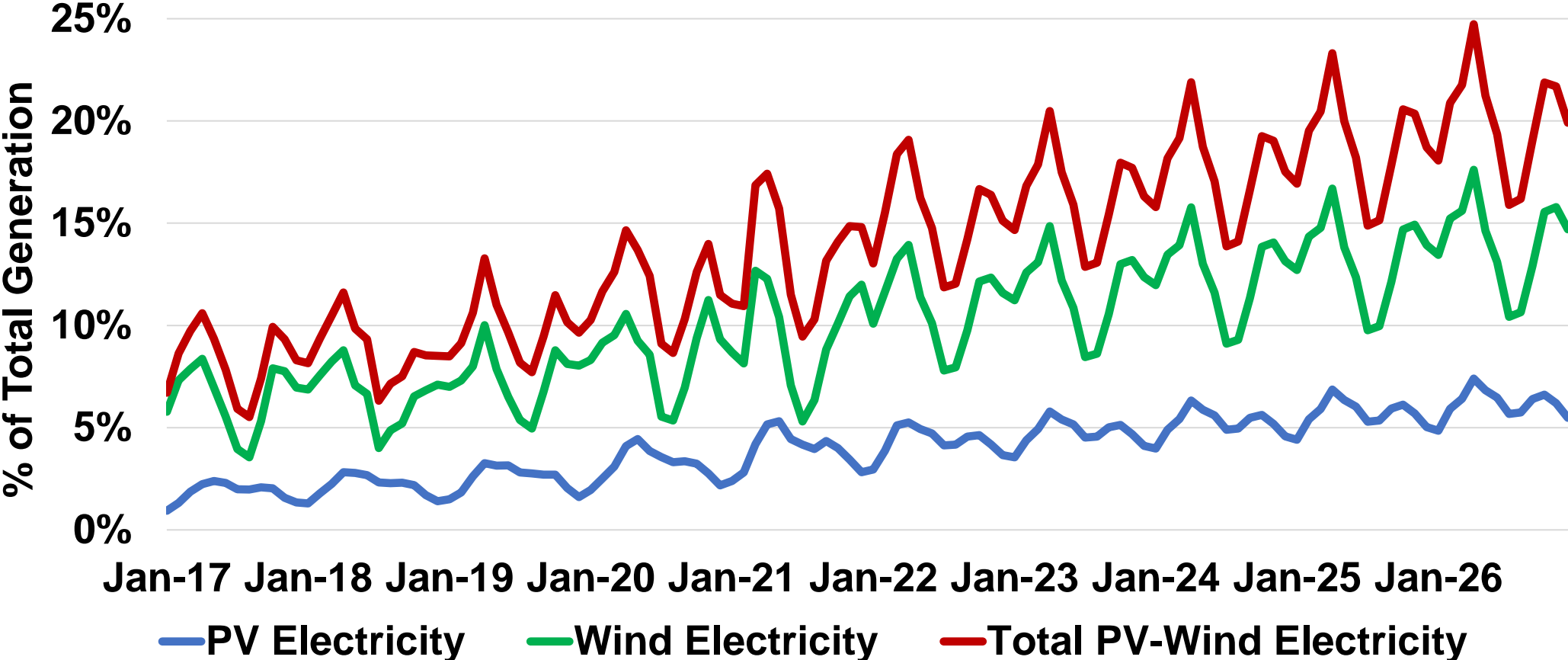
U.S. PV & Wind Monthly Electricity Generation (2017-2026)

Actual through March 2022; Forecast through Dec. 2026



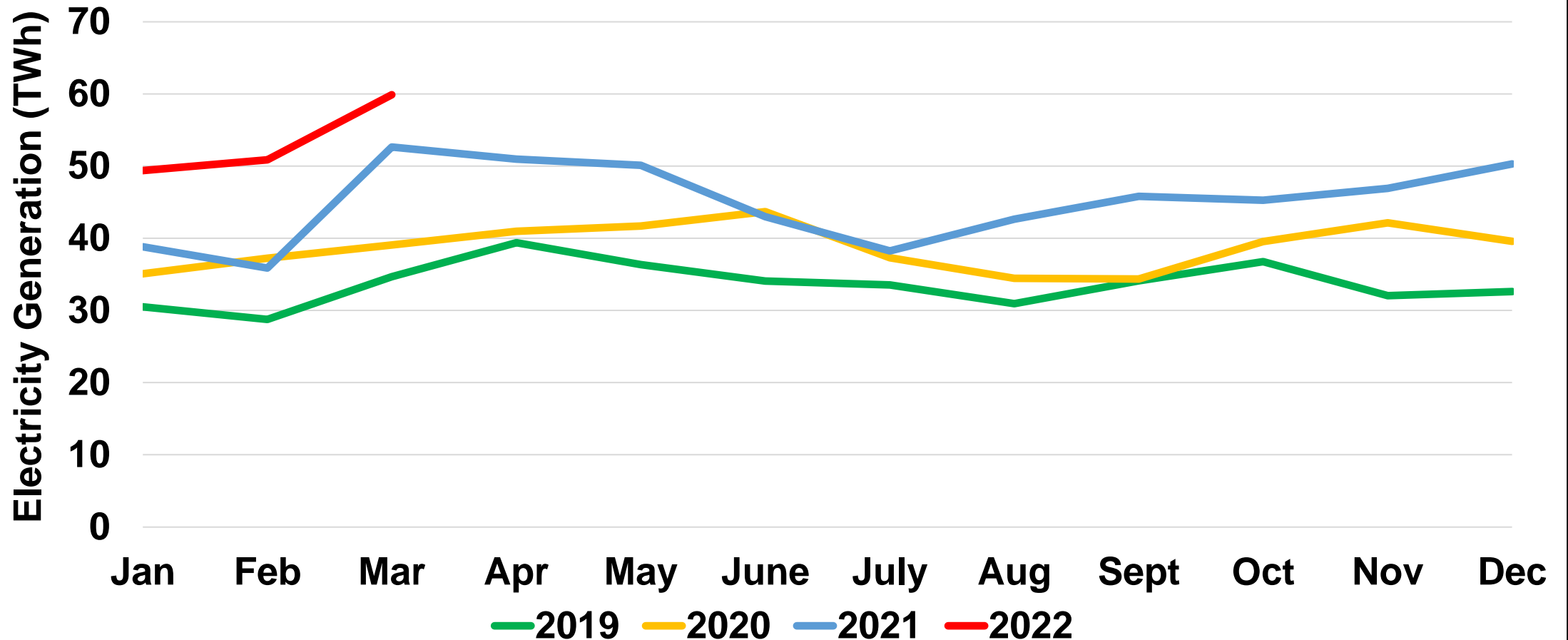
Note: PV Small is less than 1.0 MW; PV Utility is 1.0 MW and greater

U.S. PV & Wind Electricity as % of Total Generation Actual through March 2022; Forecast through Dec. 2026

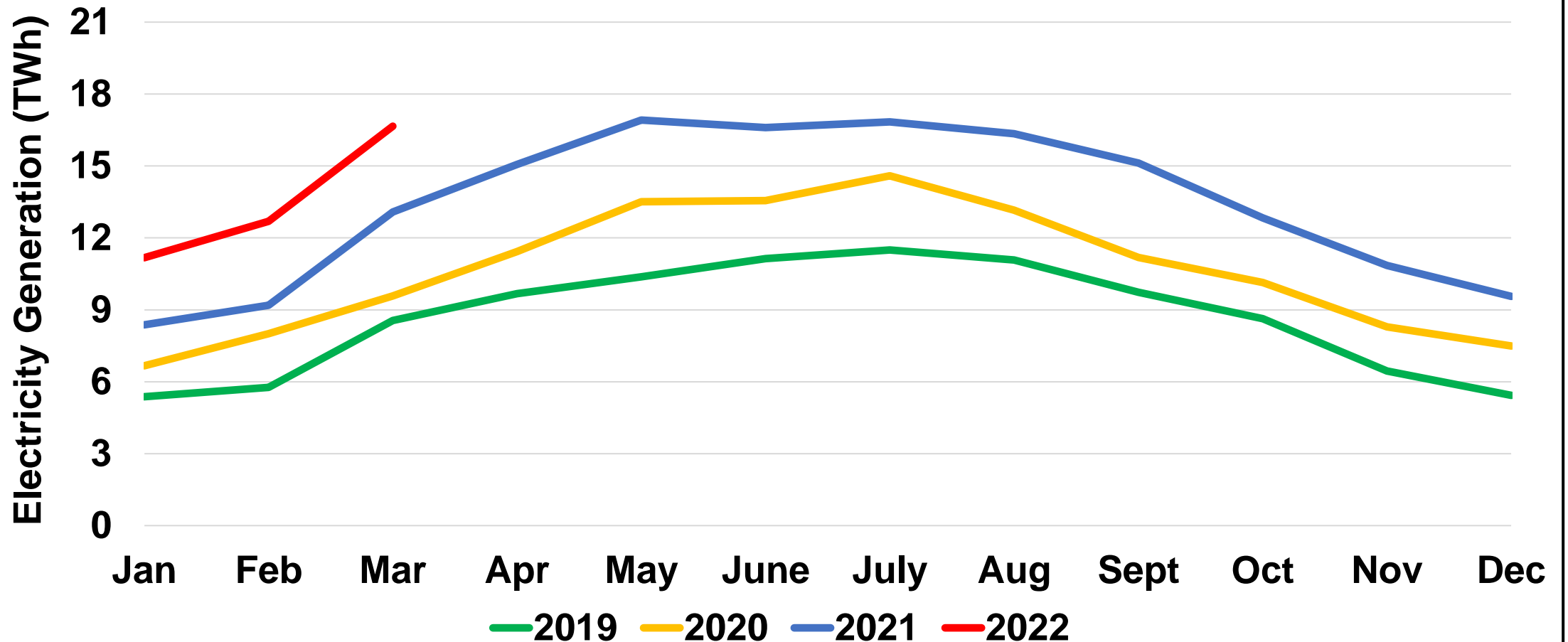


Note: Fossil fuel electricity generation was 60% of total 2020 electricity generation.

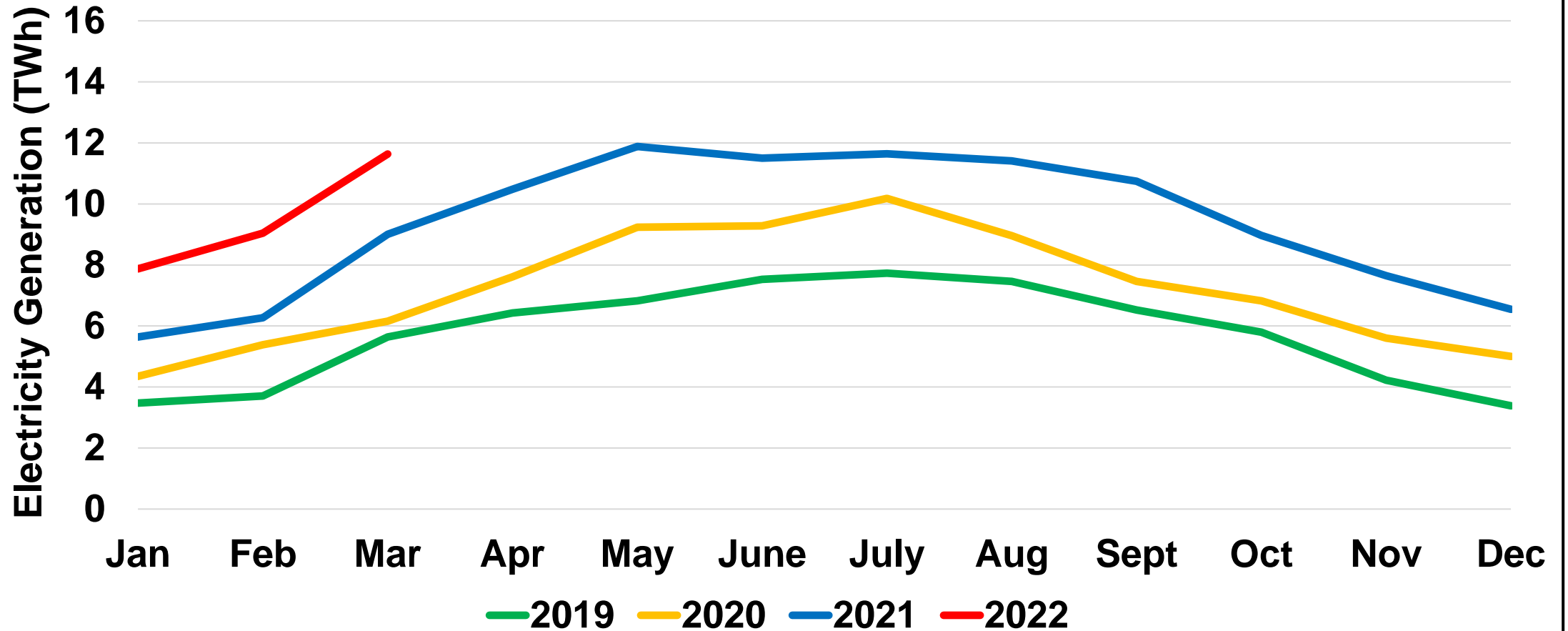
Combined PV and Wind Electricity Generation Year-on-Year (through March 2022)



PV Electricity Generation Year-on-Year (through March 2022)

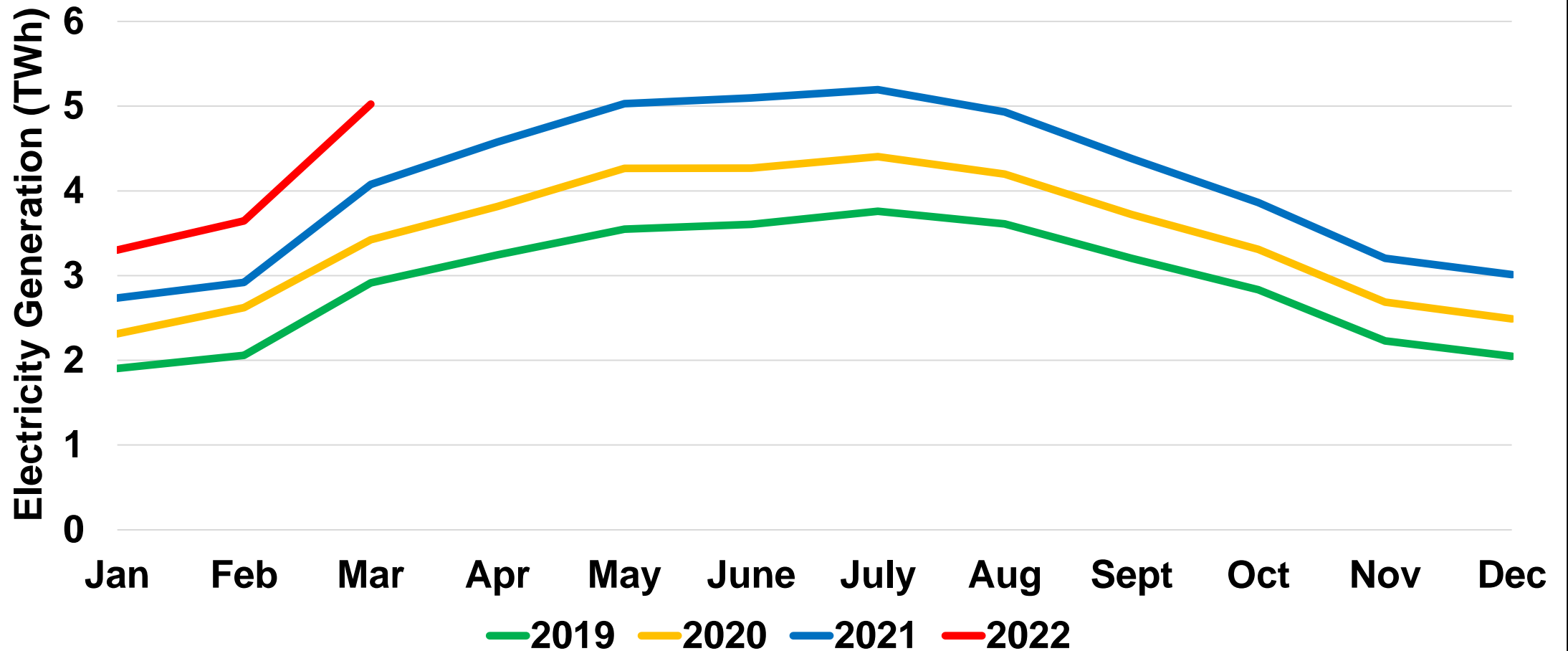


Utility PV Electricity Generation Year-on-Year (through March 2022)

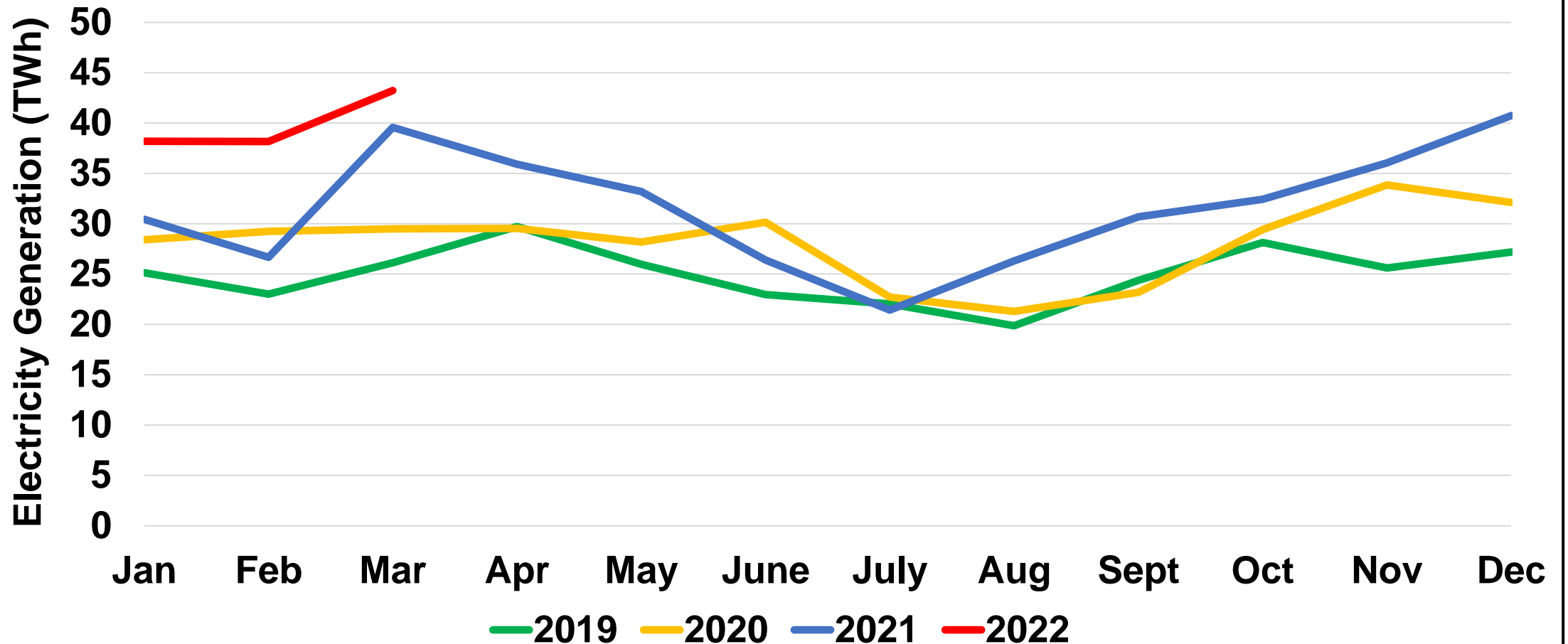


Note: PV Utility is greater than 1.0 MW

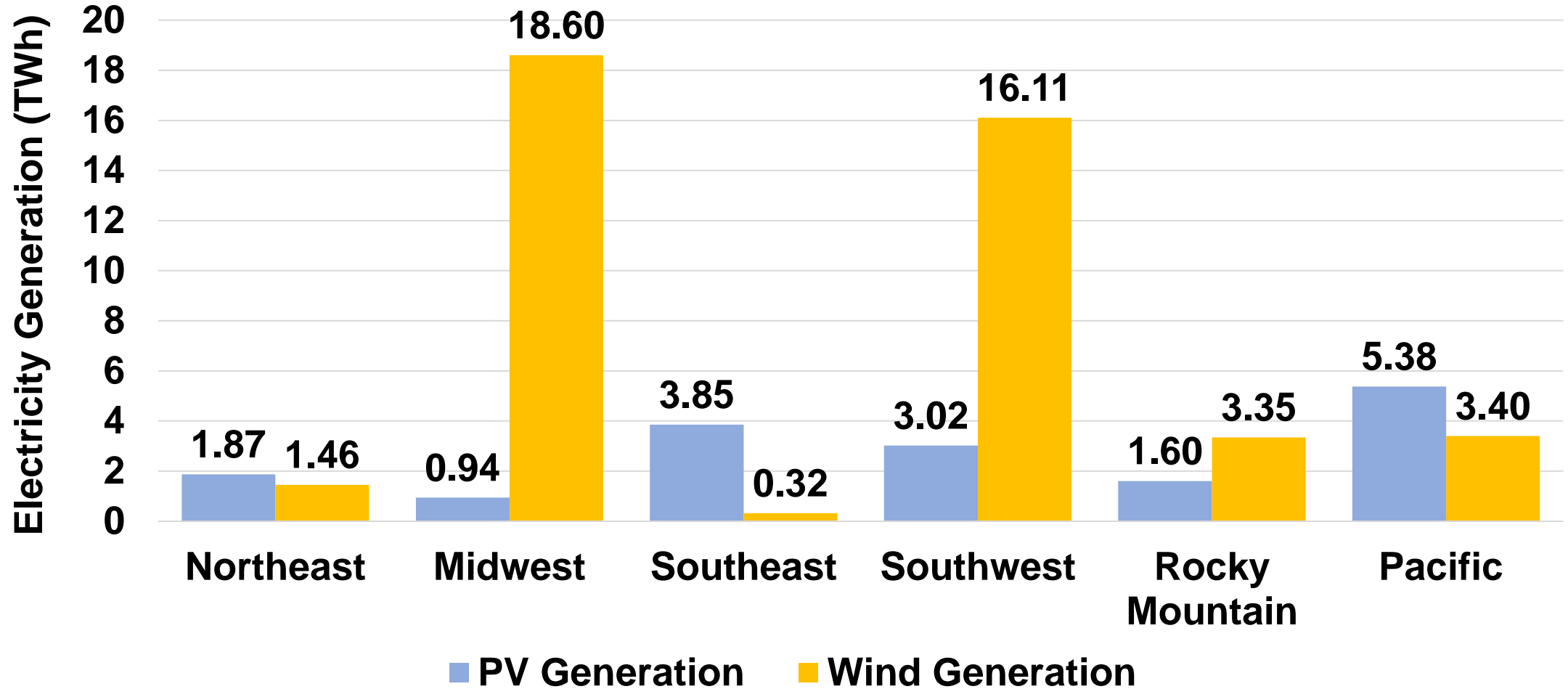
Small PV Electricity Generation Year-on-Year (through March 2022)



Wind Electricity Generation Year-on-Year (through March 2022)



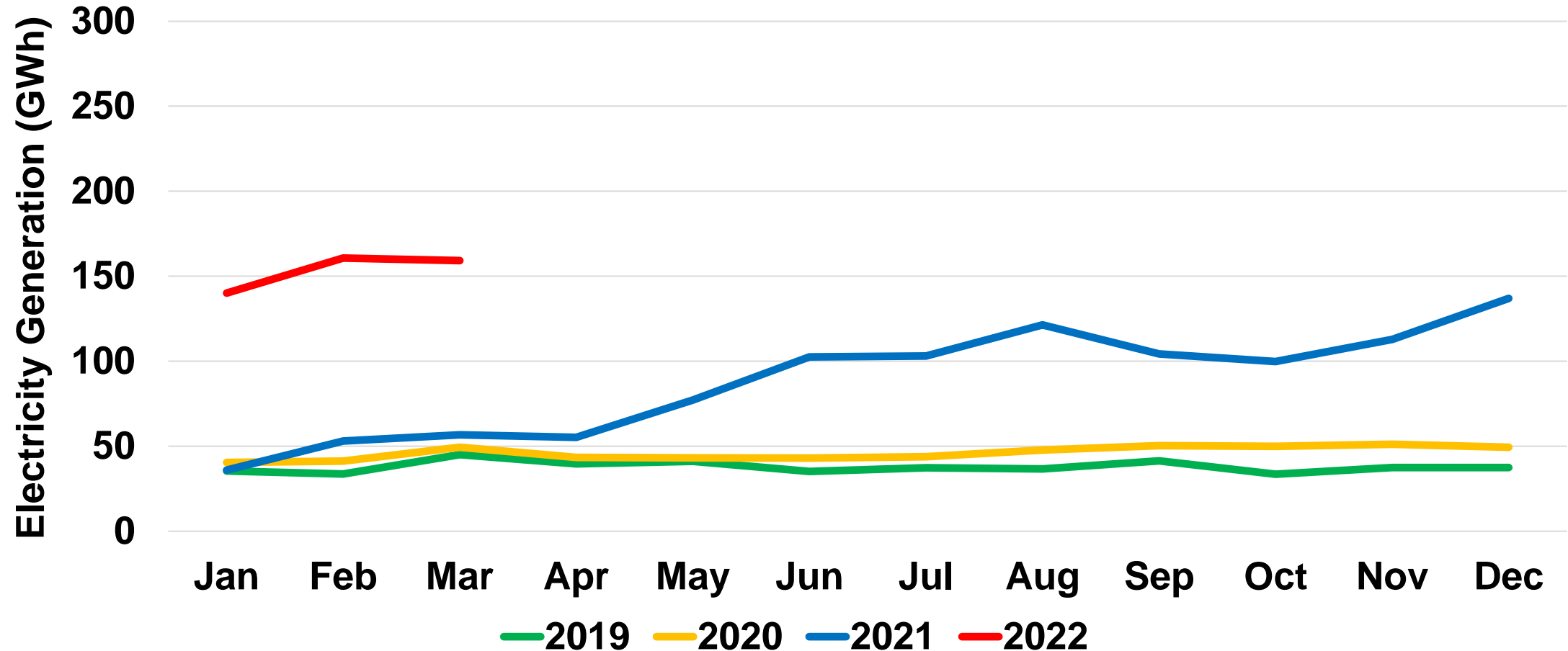
Regional PV & Wind Electricity Generation March 2022





U.S. Battery Storage

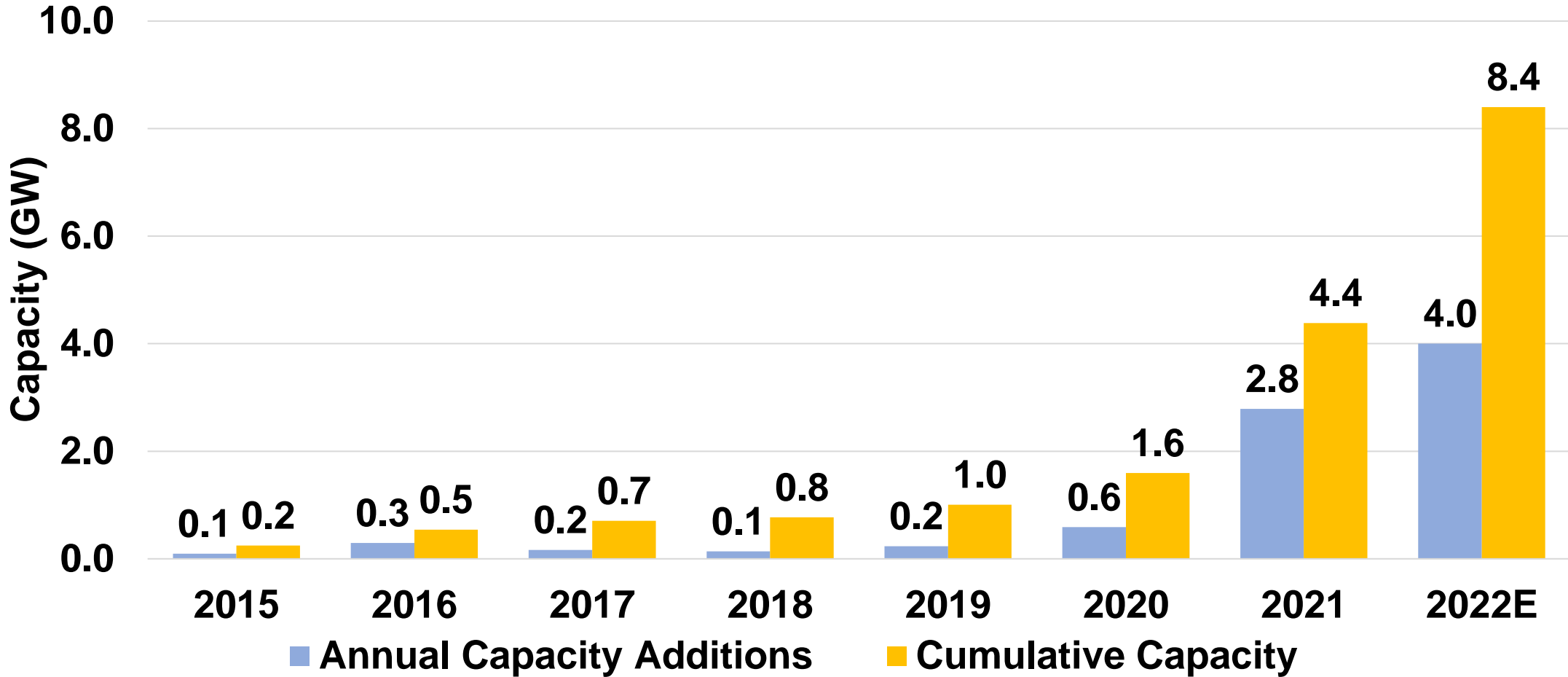
Battery Electricity Generation Year-on-Year (through March 2022)



Battery Storage

Cumulative Capacity and Annual Capacity Additions

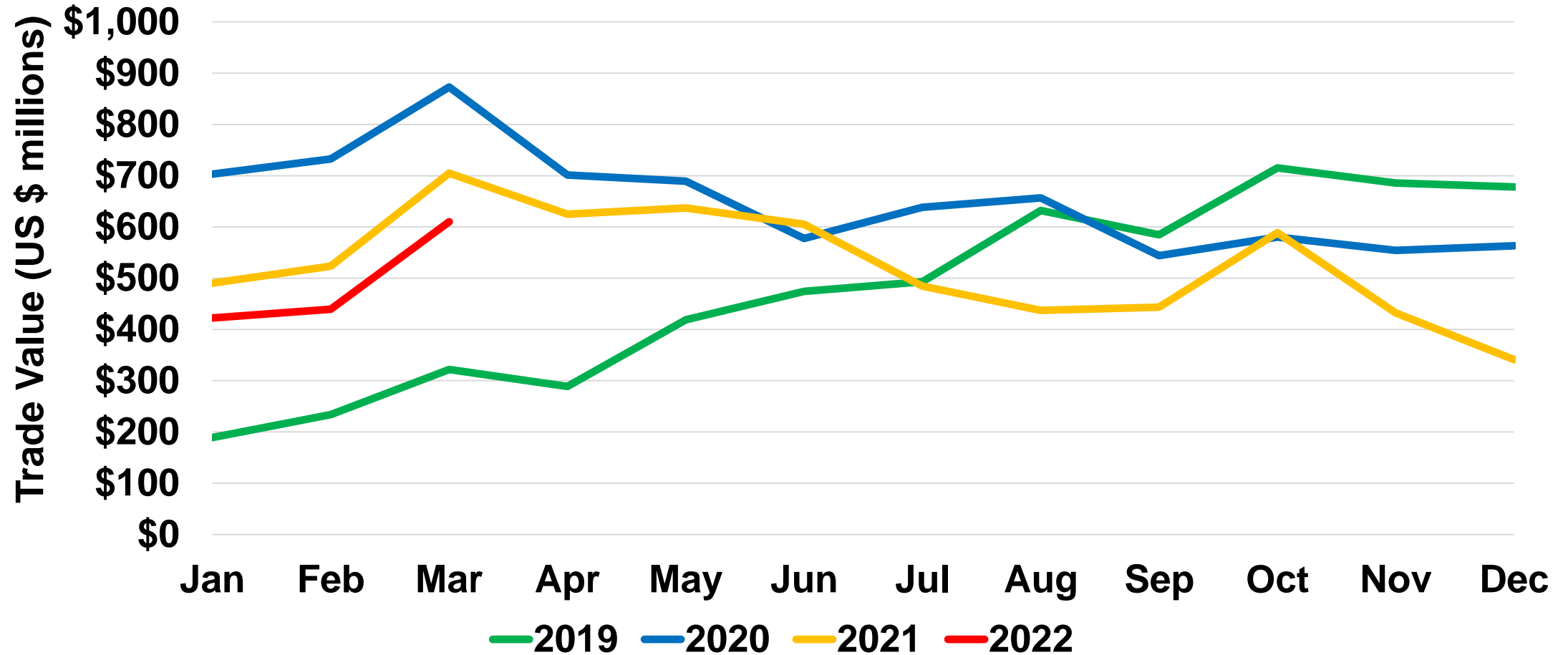
2022 Forecast



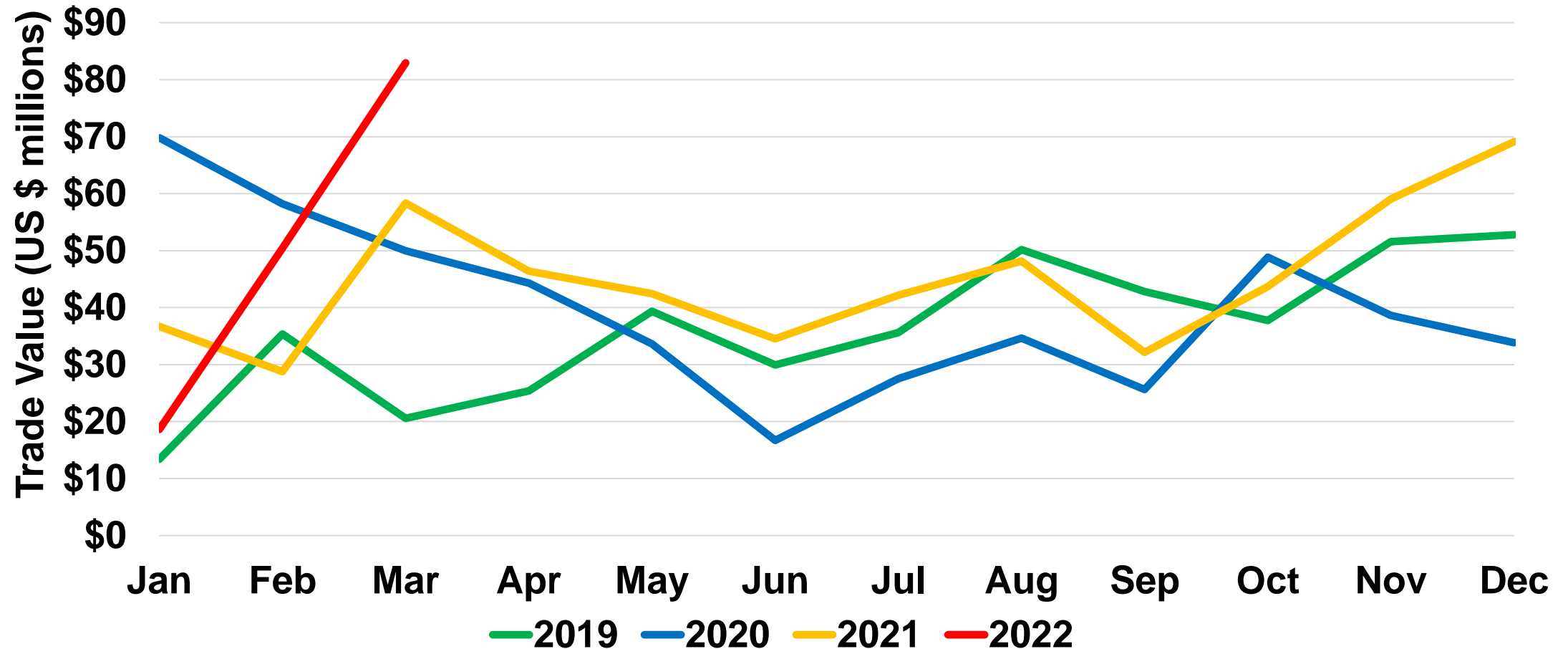


U.S. PV Trade (Cells and Modules)

U.S. Year-on-Year PV Panel Imports (through March 2022)



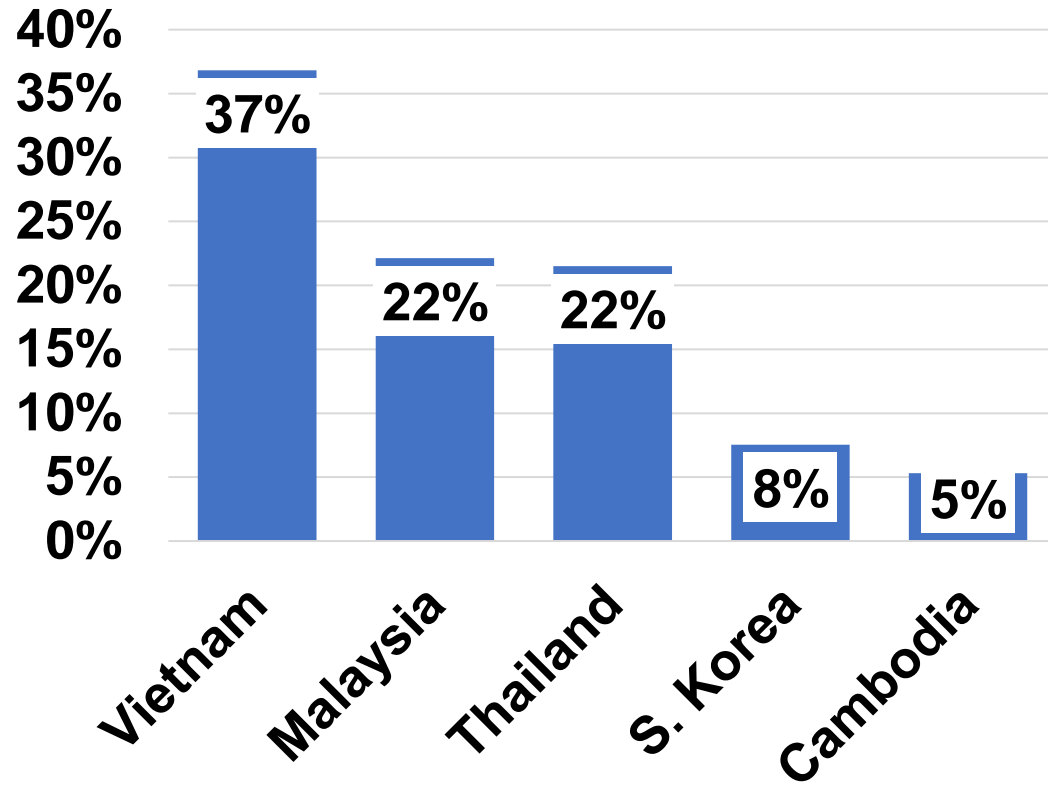
U.S. Year-on-Year PV Cell Imports (through March 2022)



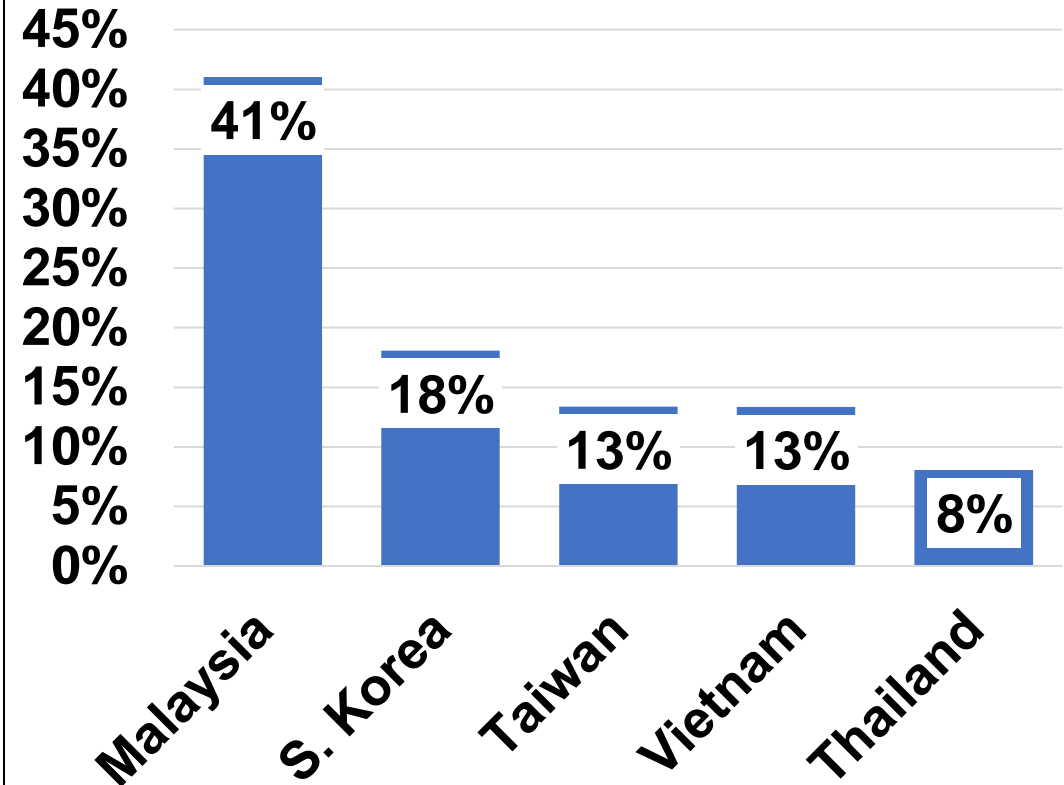
Monthly U.S. PV Panel and Cell Imports by Country March 2022



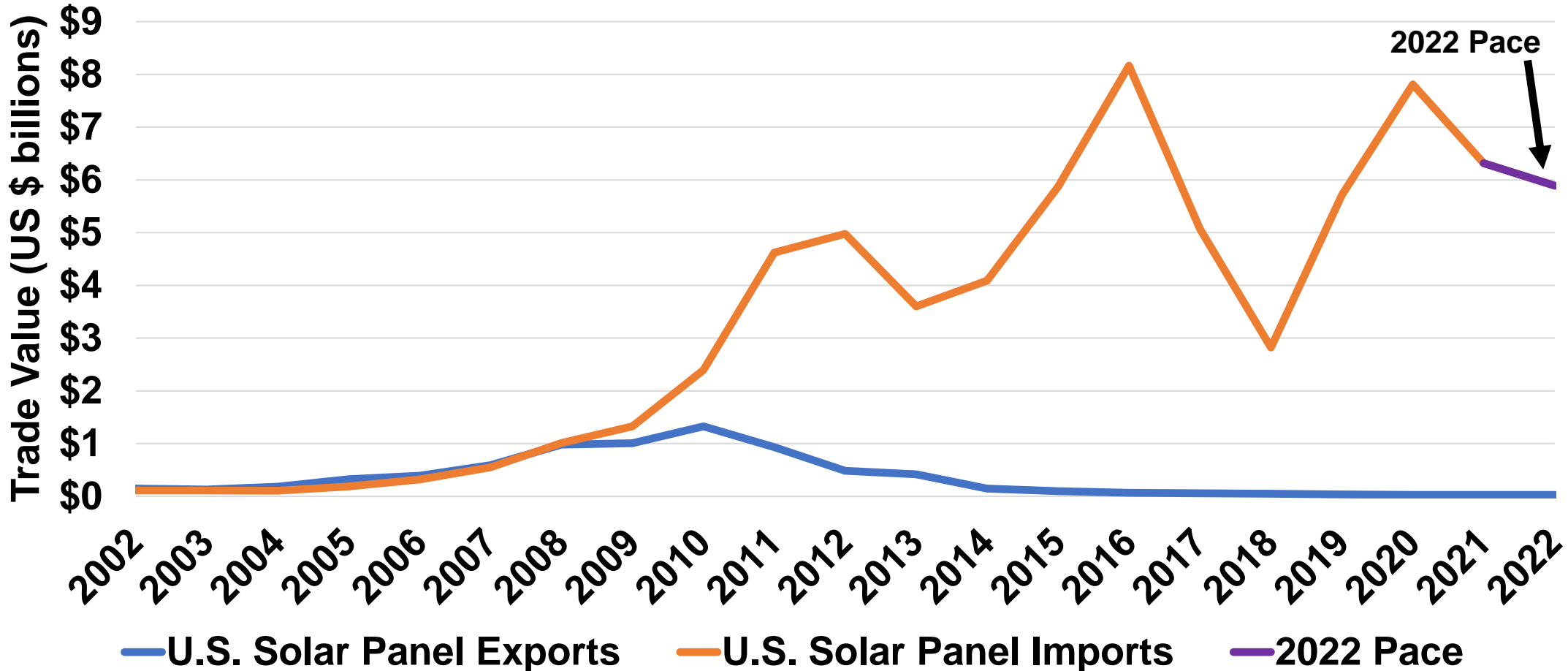
U.S. PV Panel Imports by Country



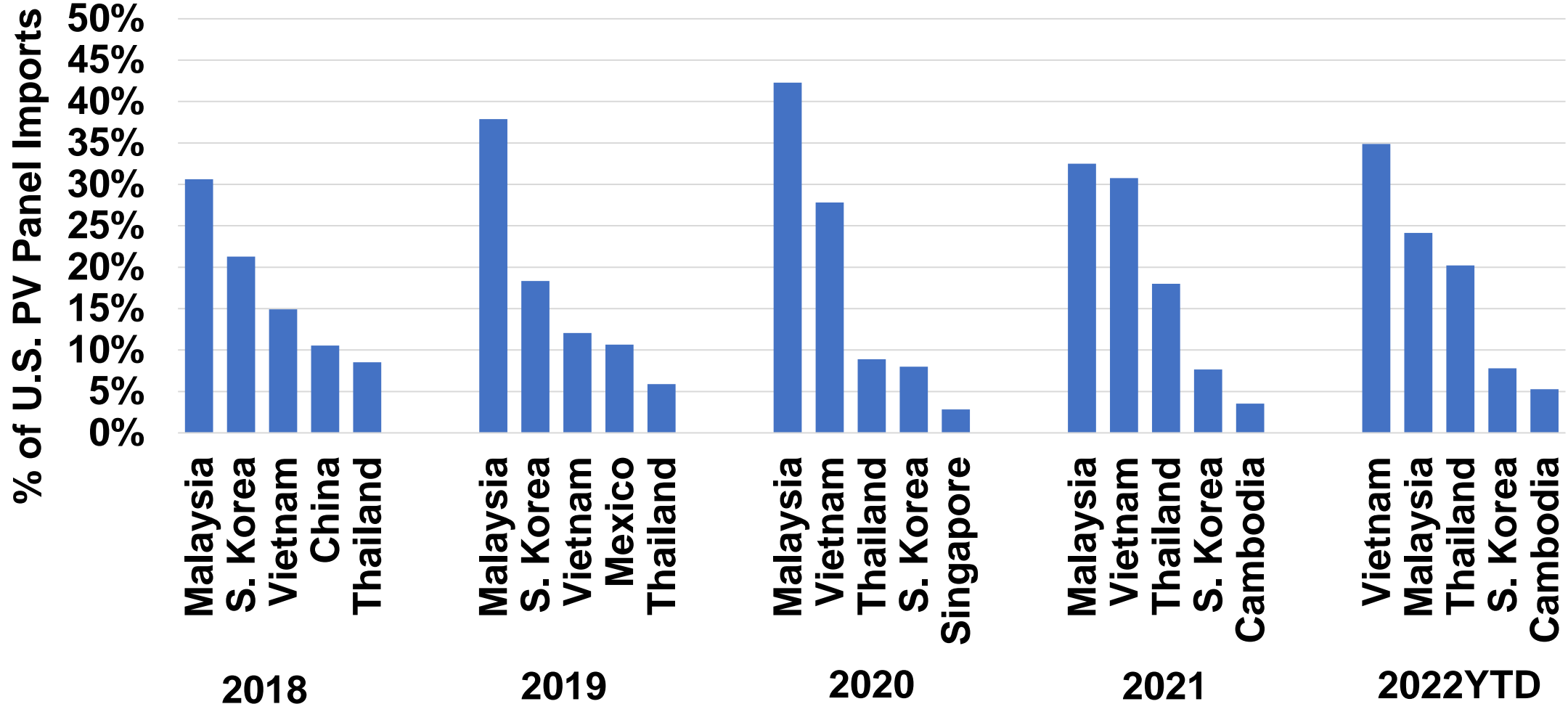
U.S. PV Cell Imports by Country



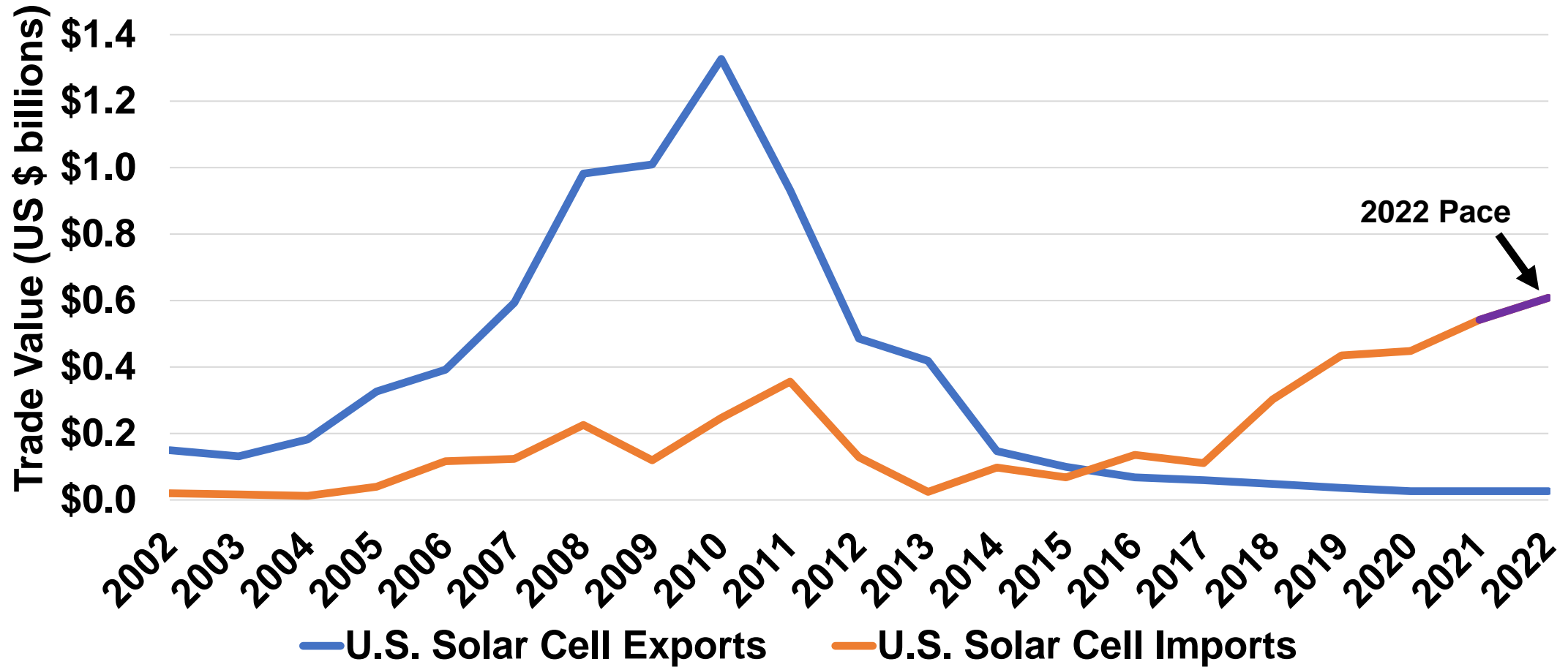
Annual U.S. PV Panel Trade through March 2022



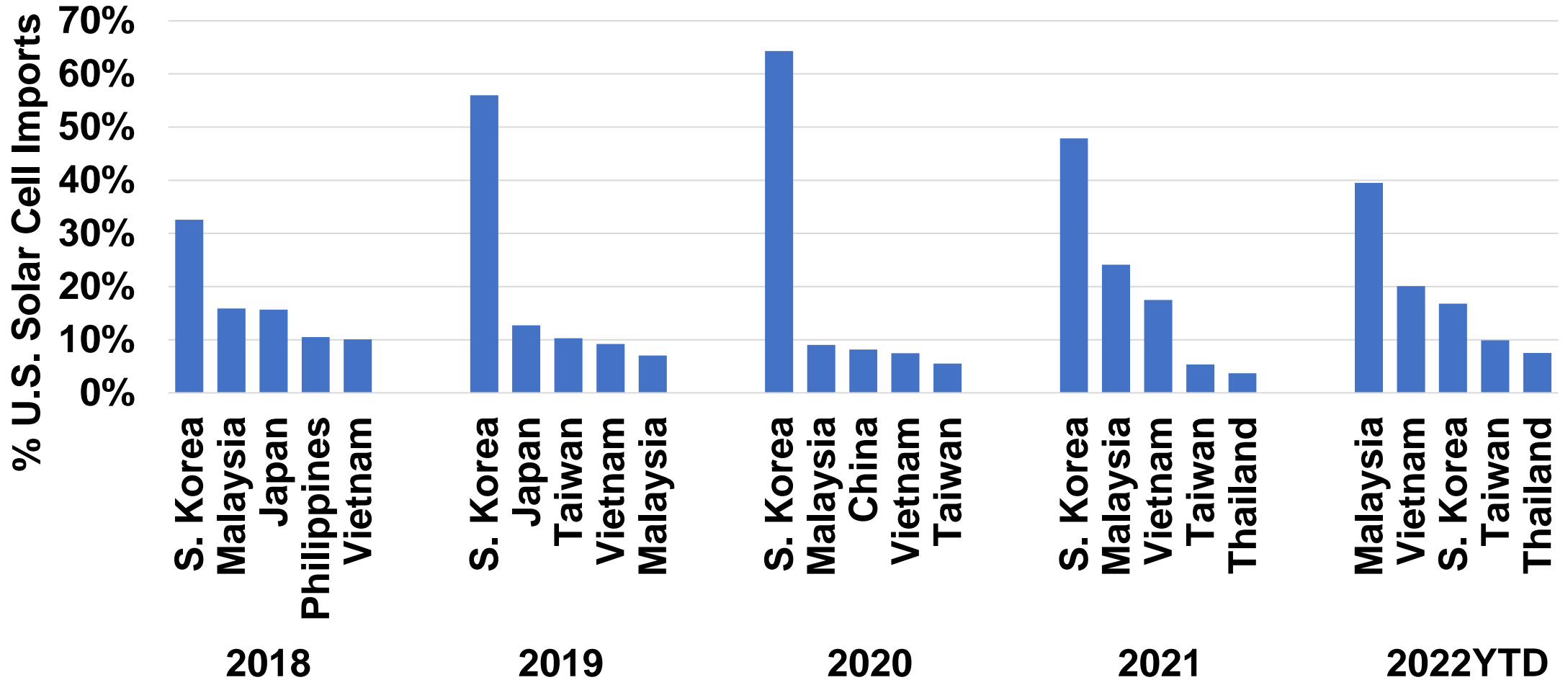
Annual U.S. PV Panel Imports Rank Order of Countries through March 2022



Annual U.S. PV Cell Trade through March 2022



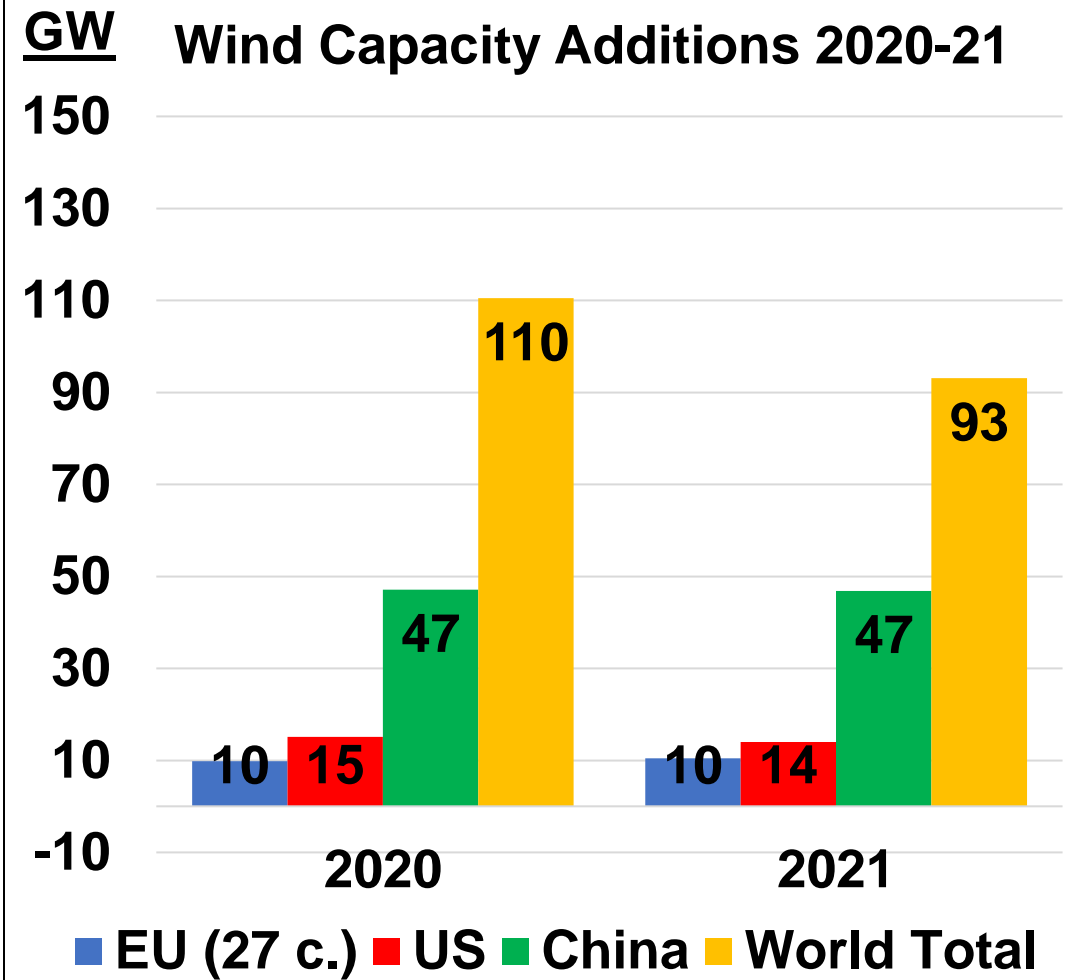
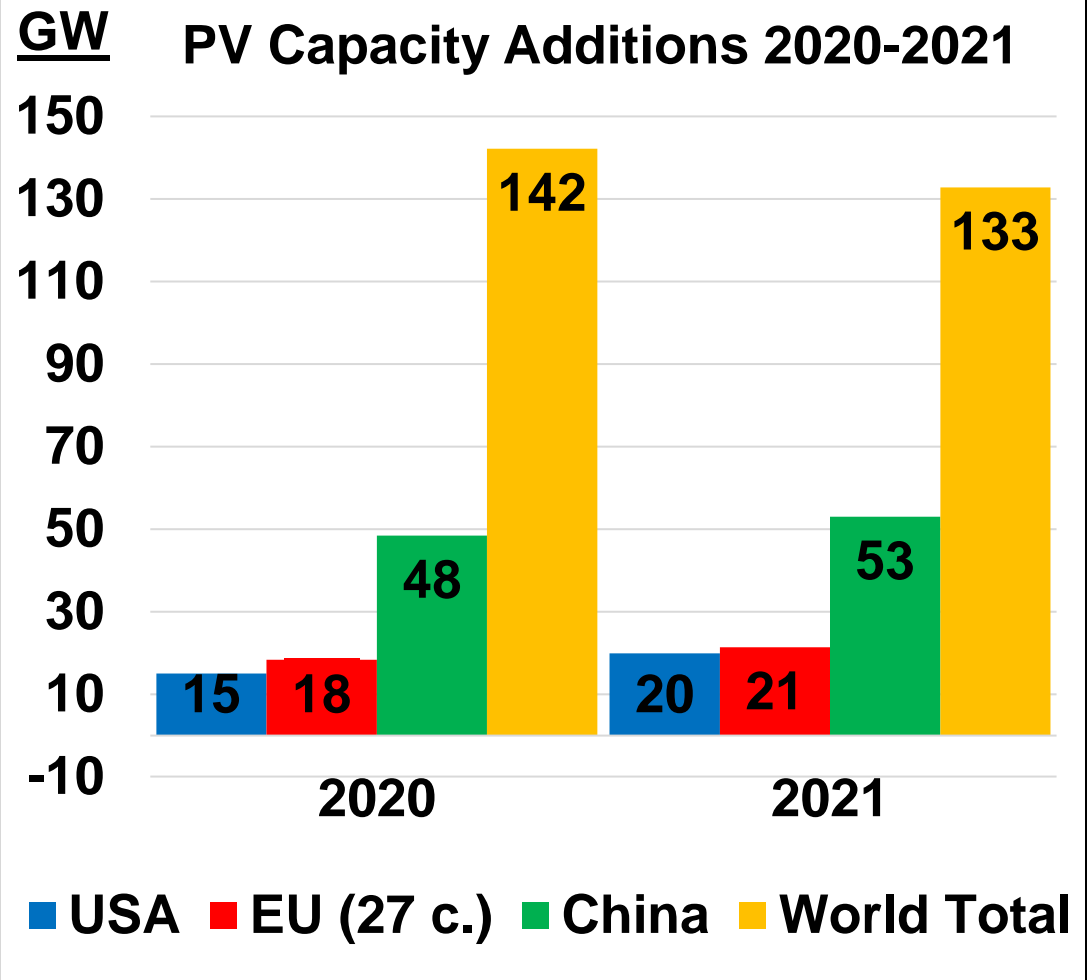
Annual U.S. PV Cell Imports Rank Order of Countries through March 2022





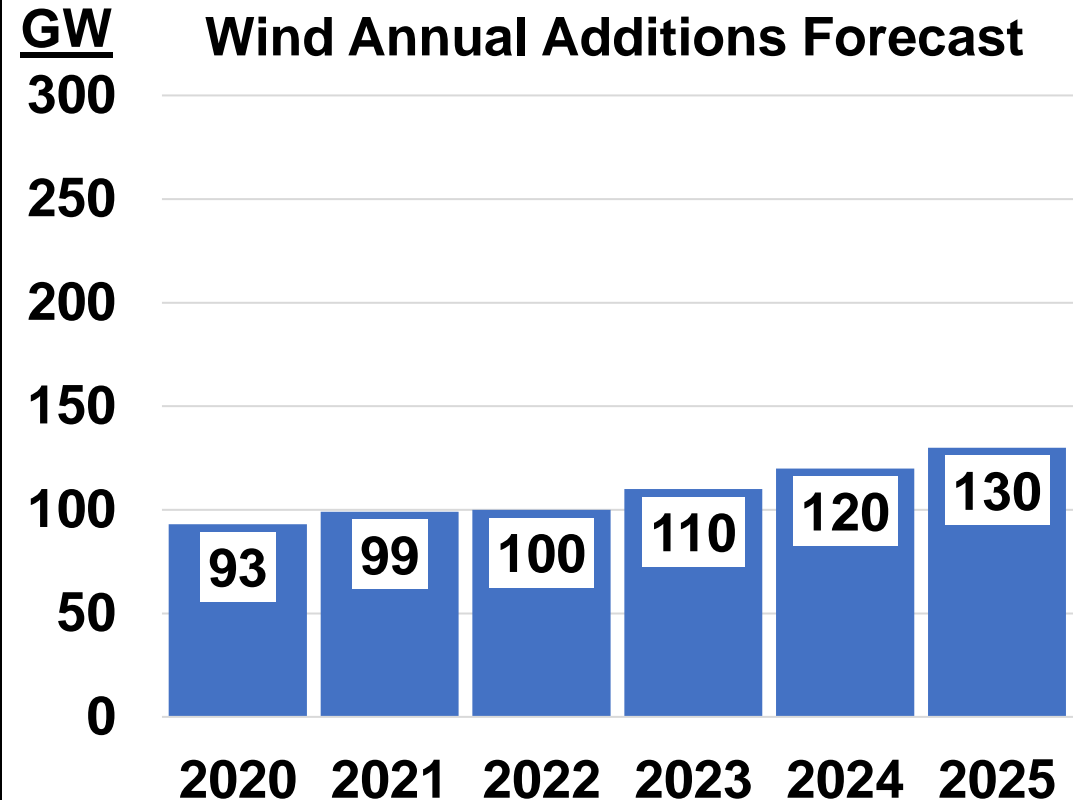
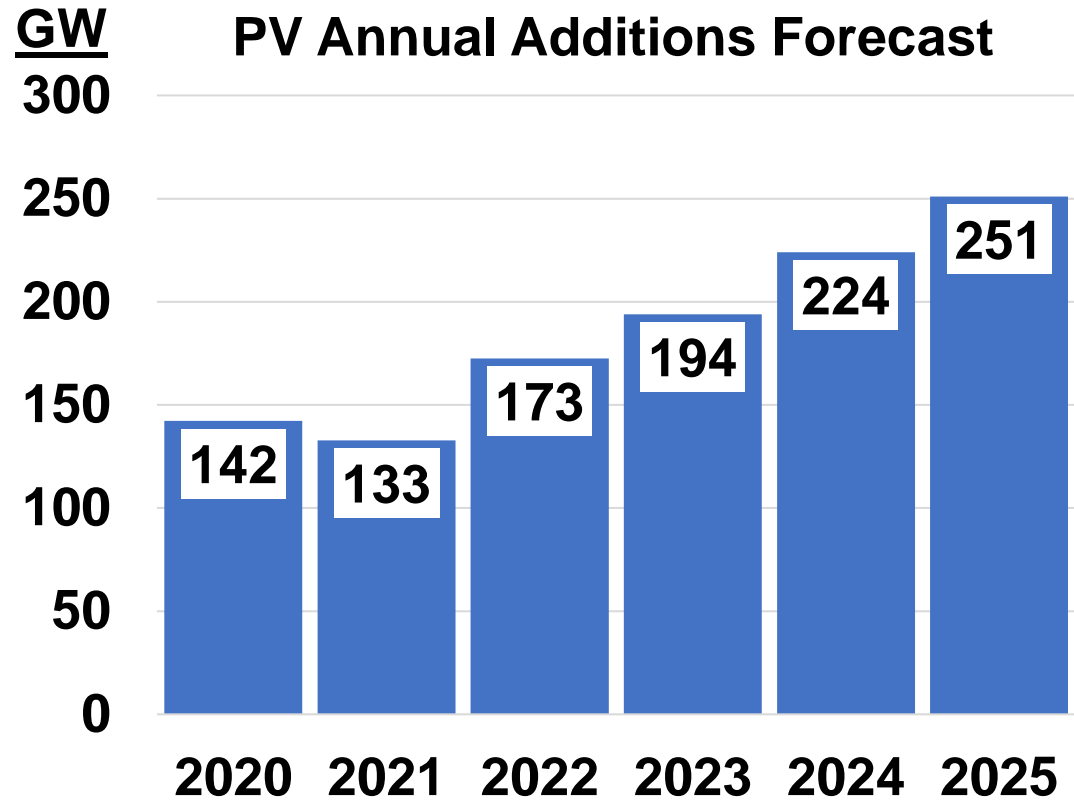
World PV and Wind

2020-2021 World PV and Wind Capacity Additions



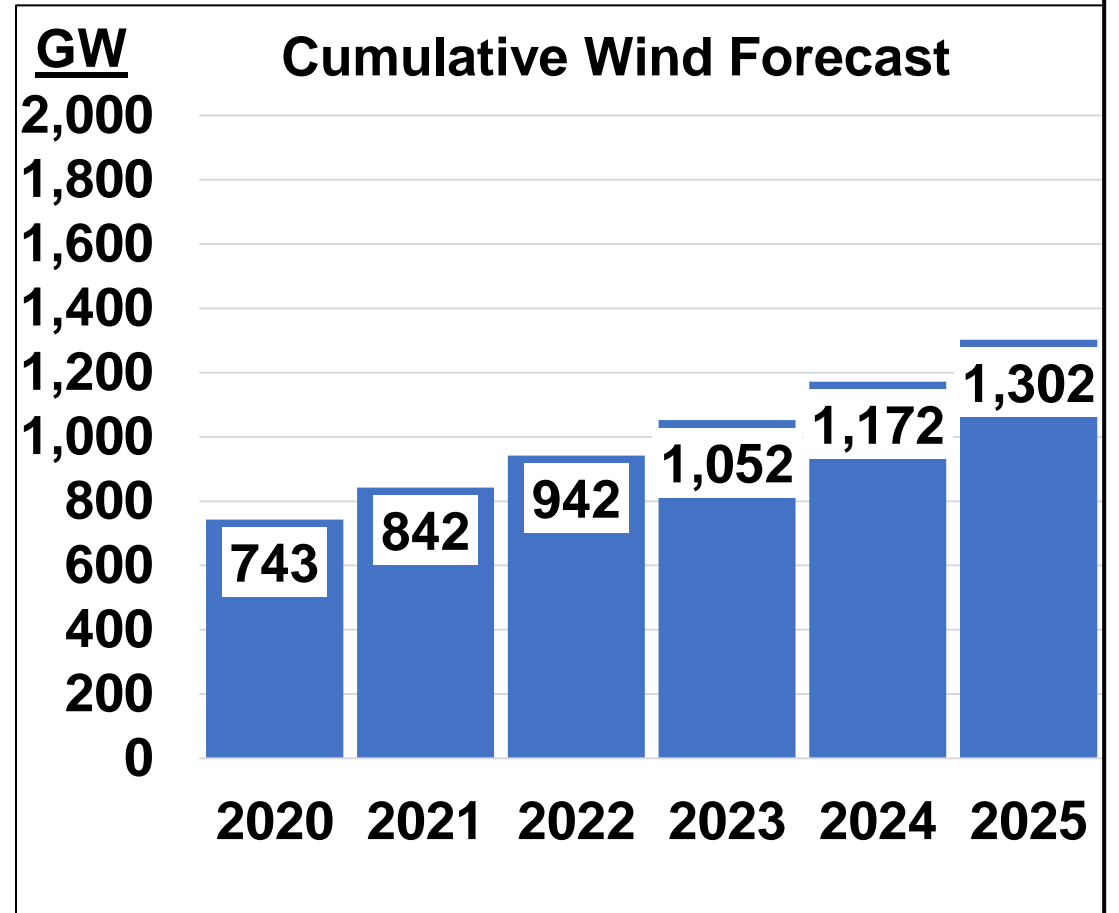
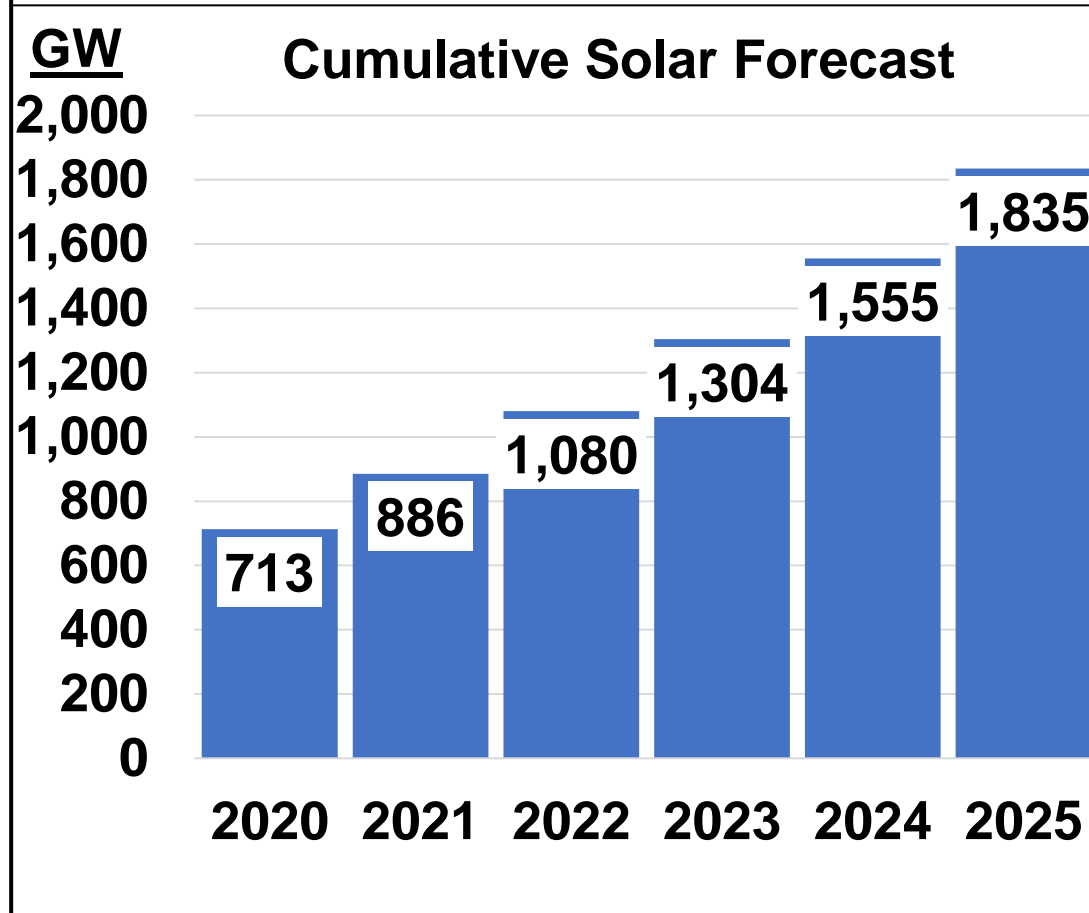
World PV and Wind Annual Capacity Additions

Actual through 2021; Forecast 2022-2025

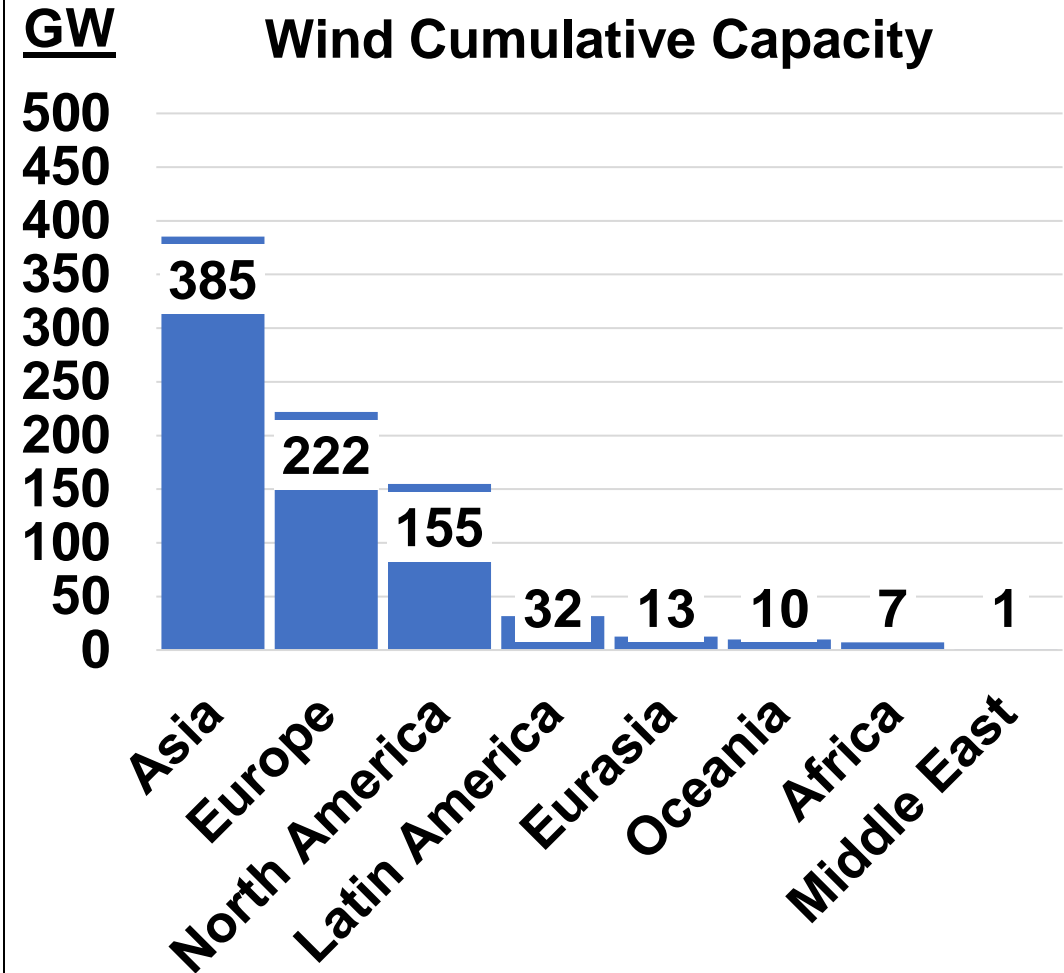
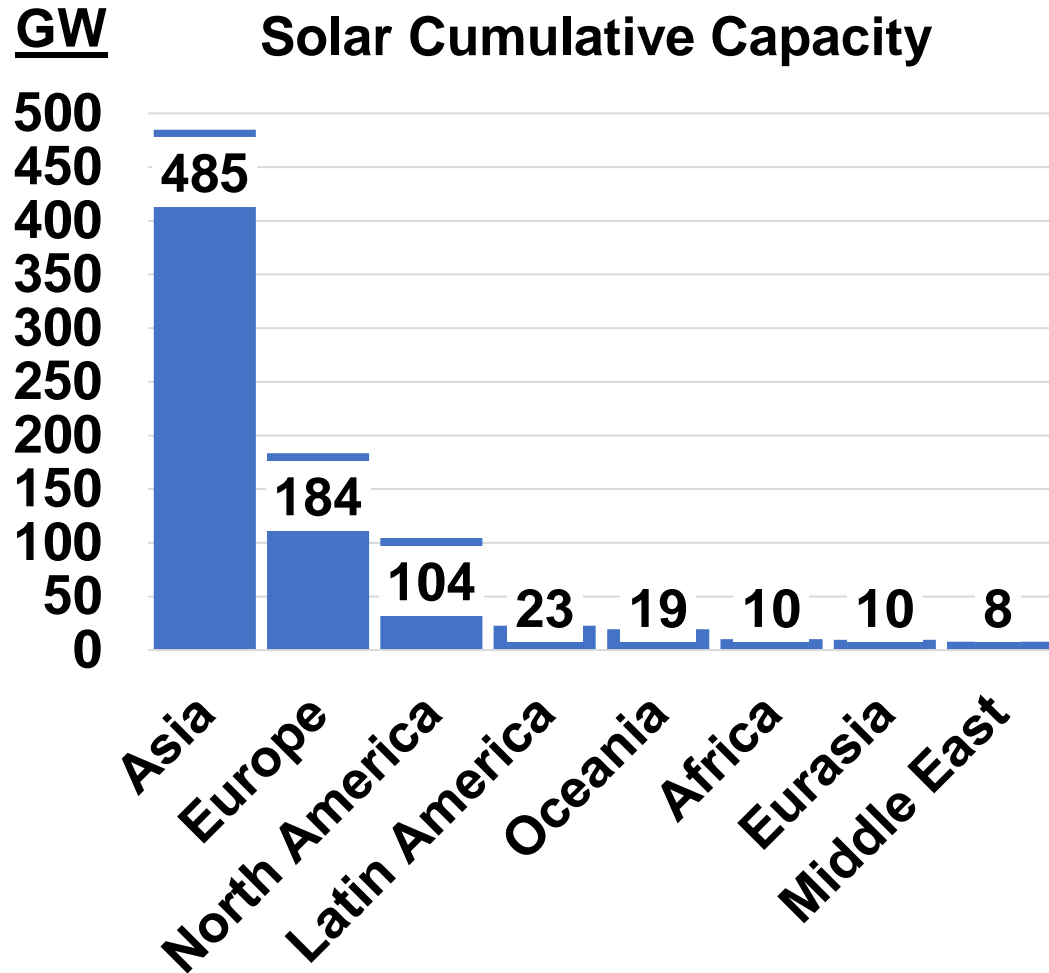


World Solar and Wind Cumulative Capacity

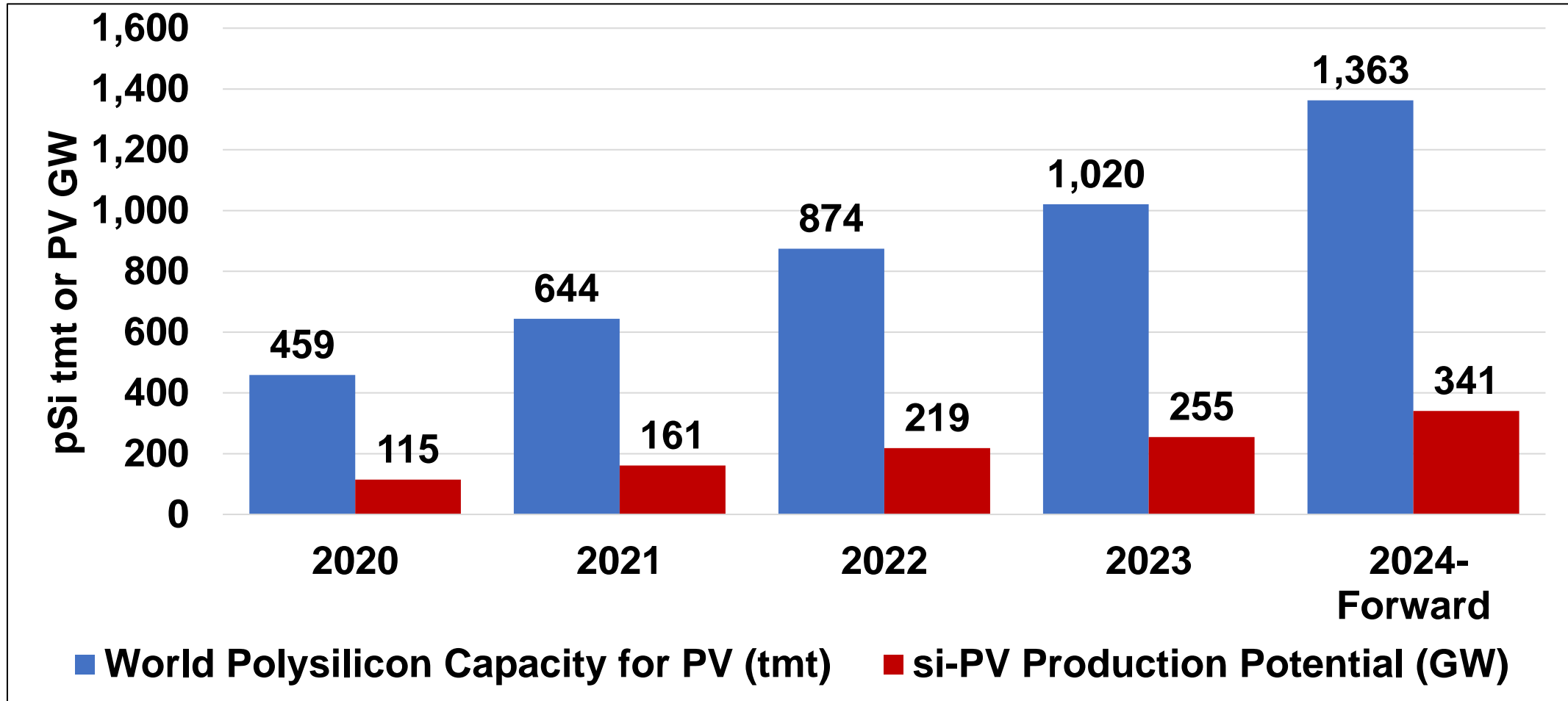
Actual through 2021; Forecast 2022-2025



2021 World Regional Solar and Wind Cumulative Capacity



Polysilicon Production and si-PV Module Production 2020 – 2024 Forward



ASAP's World PV Forecast through 2050

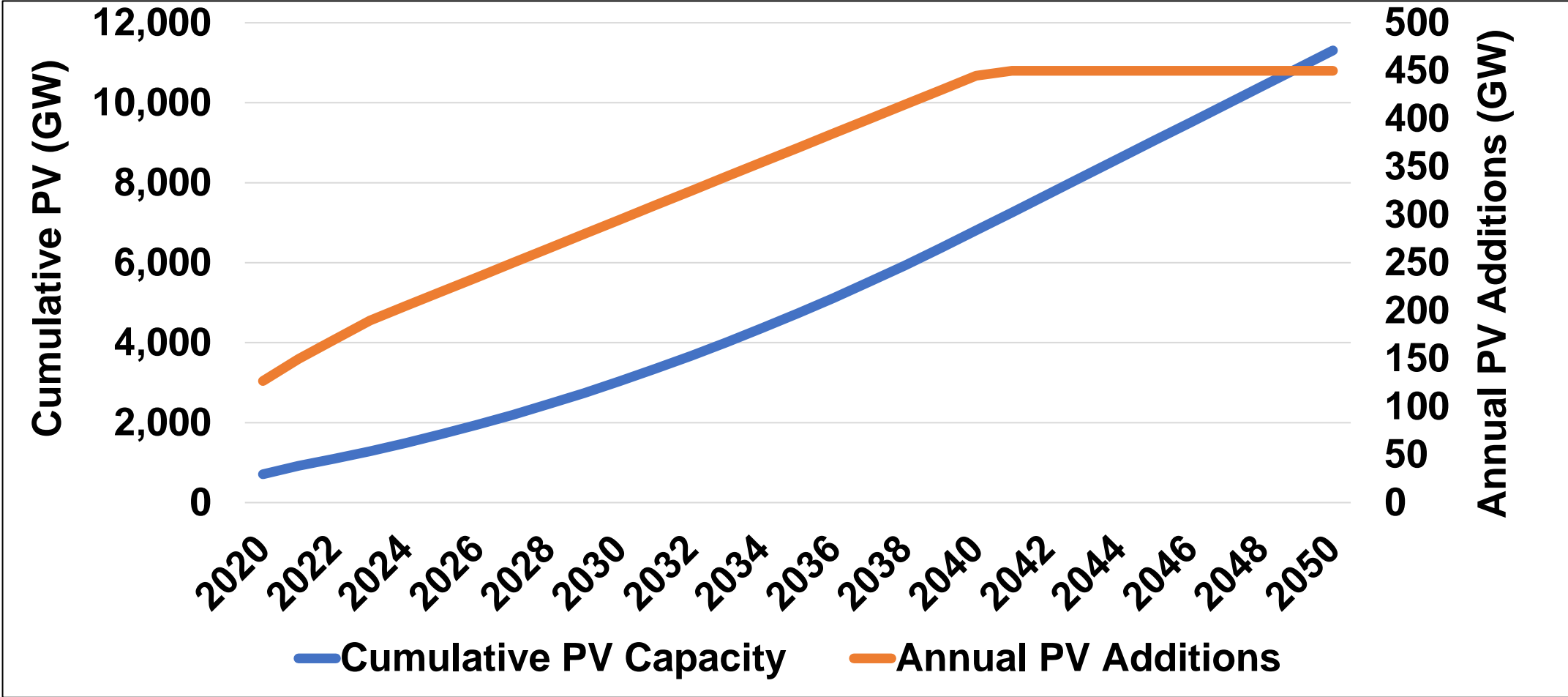
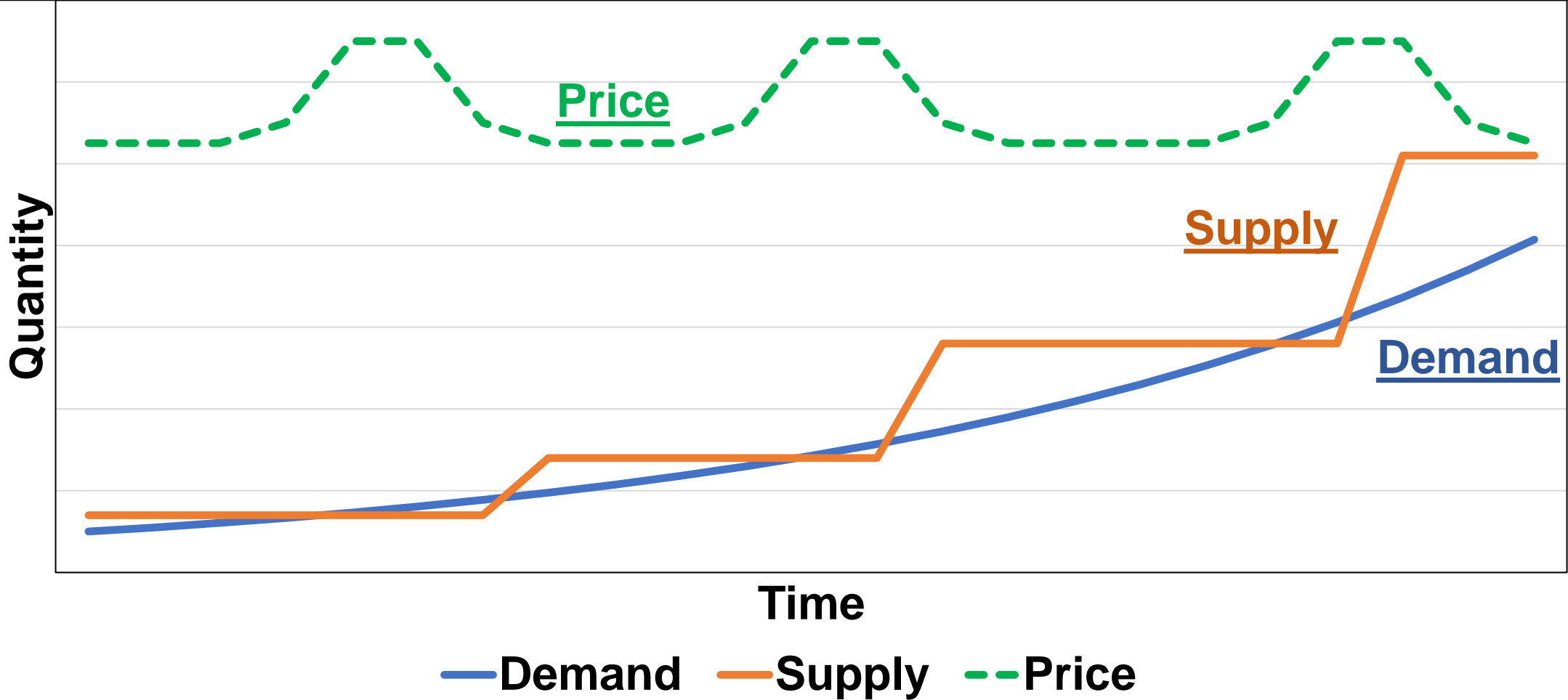


Figure 1. Silicon Supply, Demand and Price Cycles

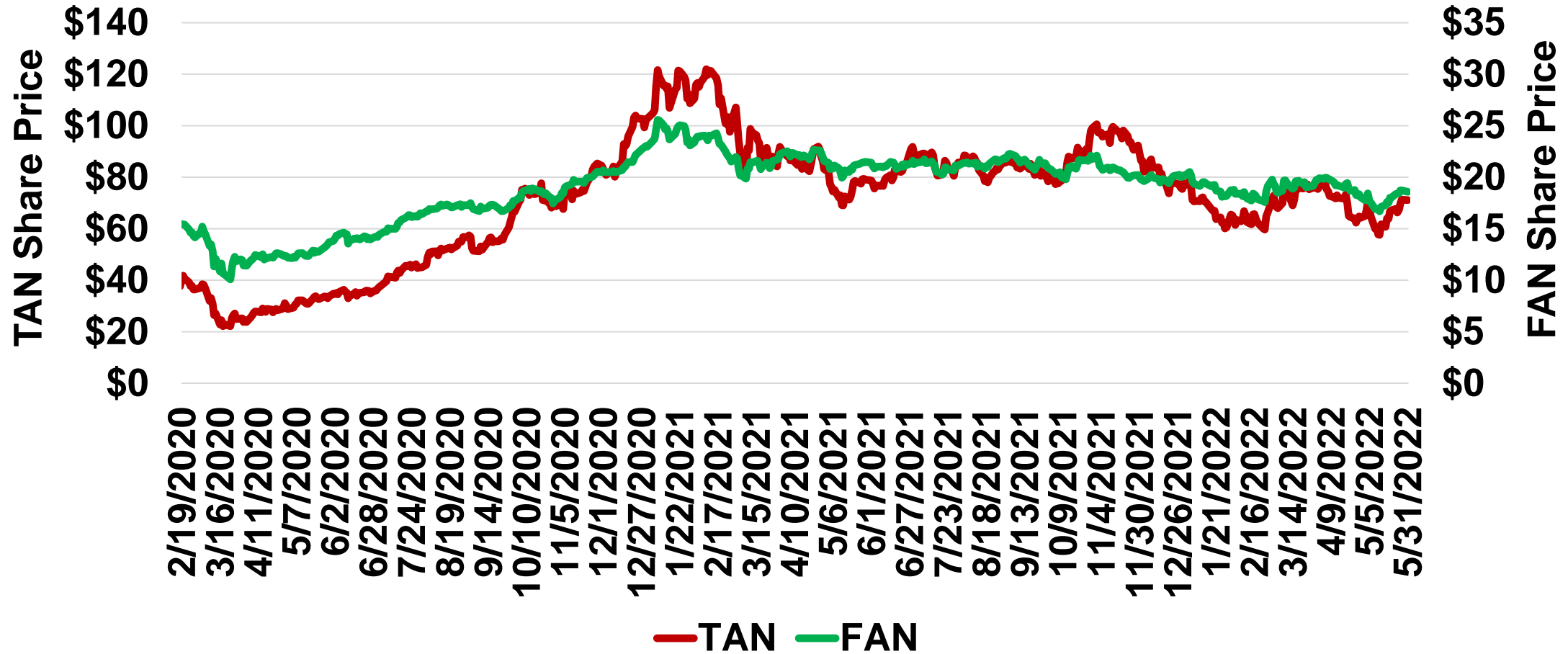




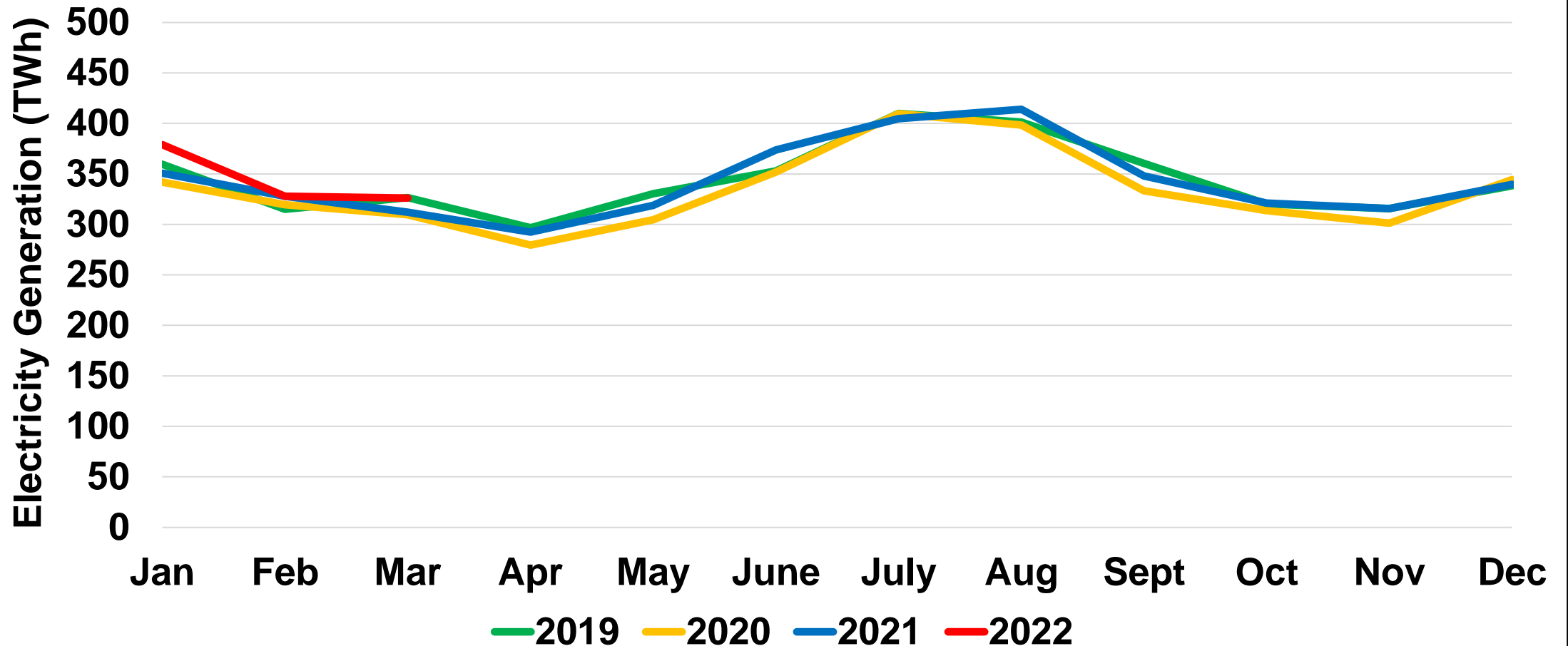
U.S. Electricity Market Overview

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

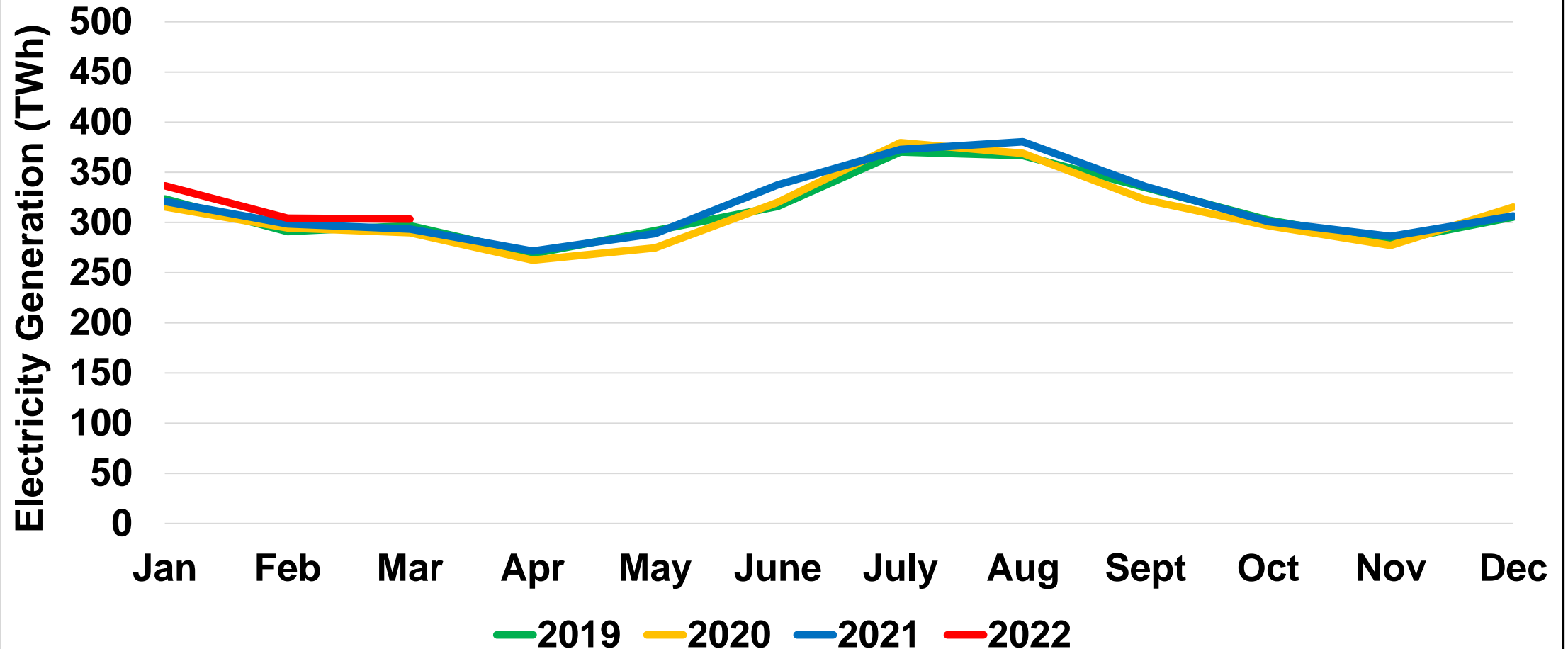
TAN (Solar) and FAN (Wind) ETF Share Prices (Adjusted Close Prices through May 31, 2022)



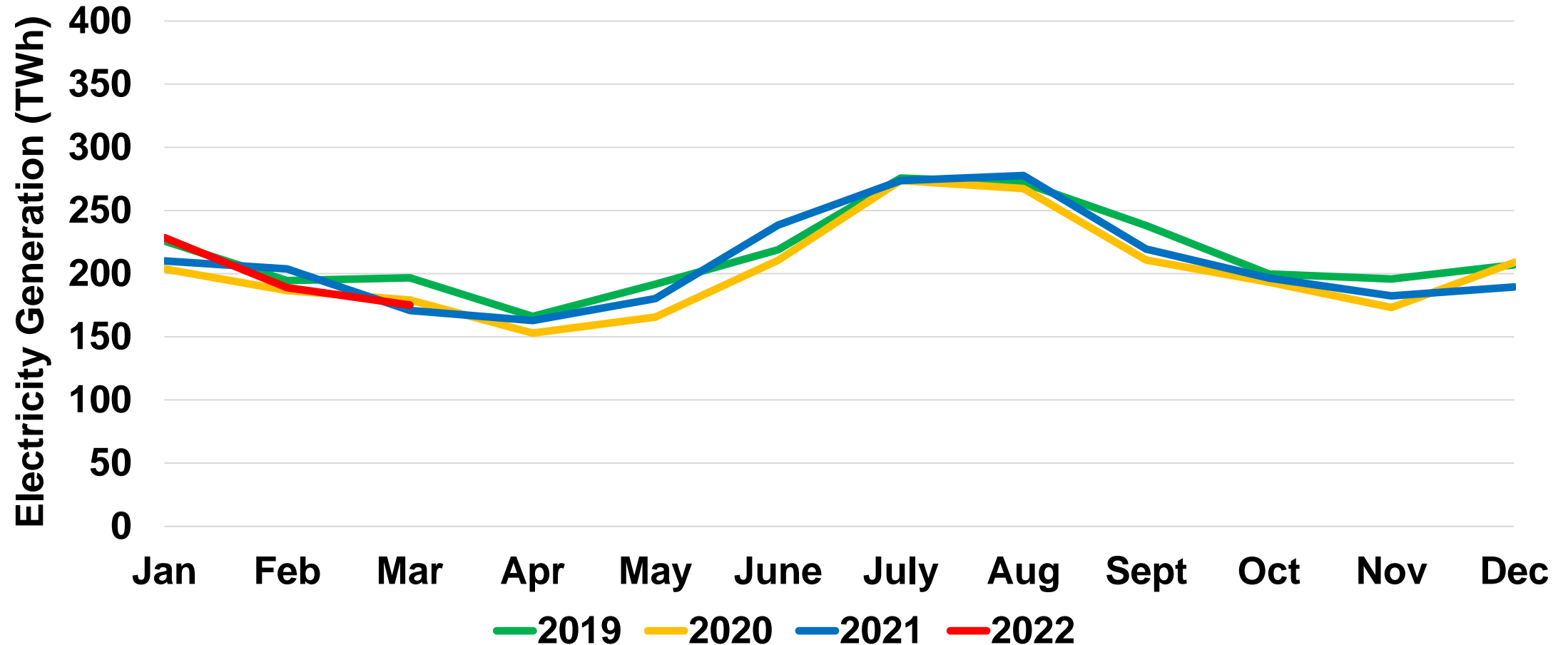
U.S. Total Electricity Generation Year-on-Year (through March 2022)



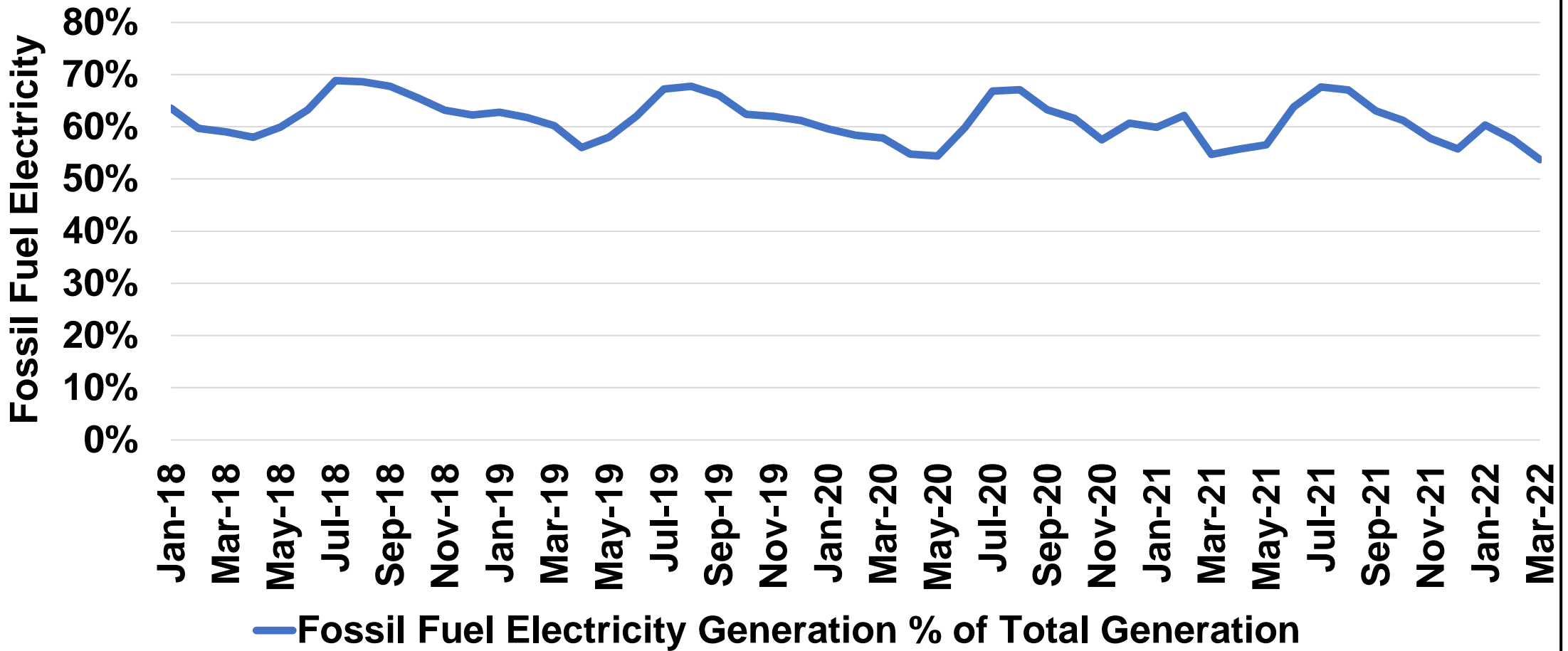
U.S. Total Electricity Demand (Retail Sales) Year-on-Year (through March 2022)



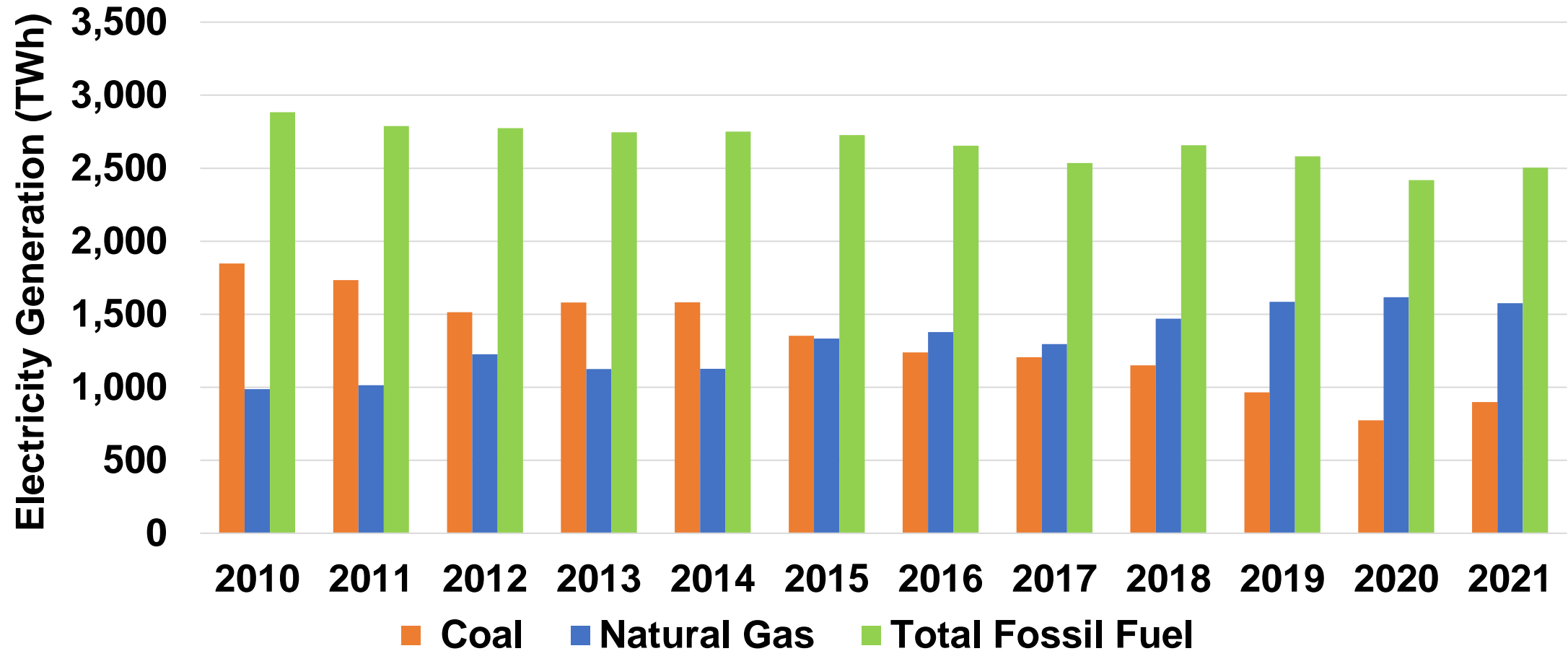
U.S. Fossil Fuel Electricity Generation Year-on-Year (through March 2022)



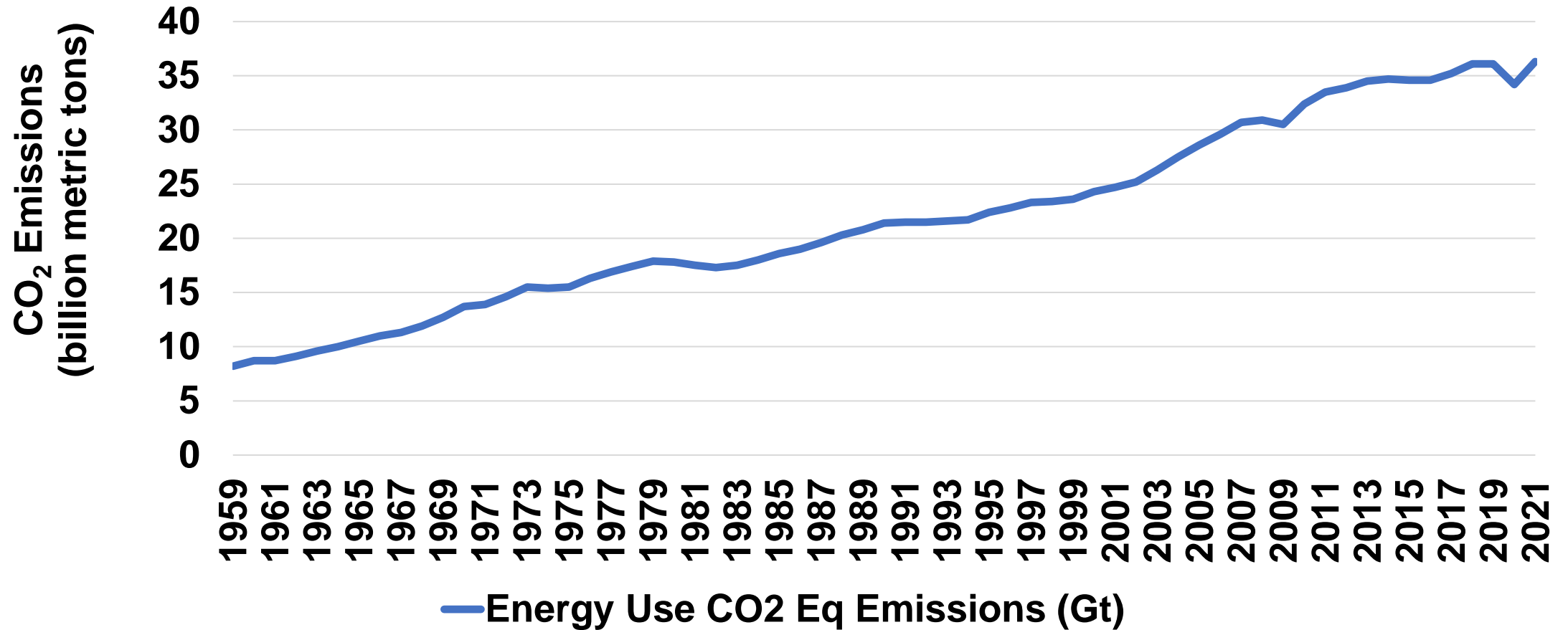
U.S. Fossil Fuel Electricity Generation % of Generation through March 2022



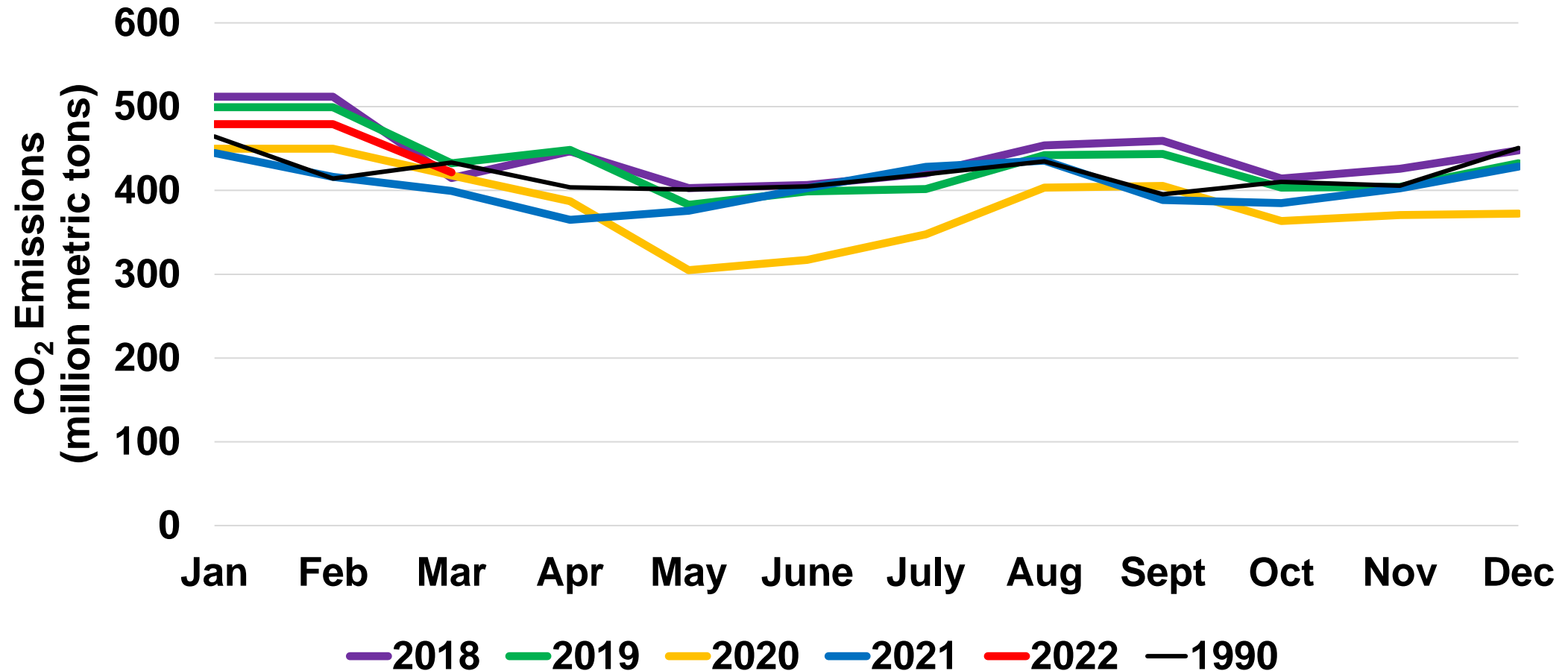
U.S. Annual Fossil Fuel Electricity Generation (2010-2021)



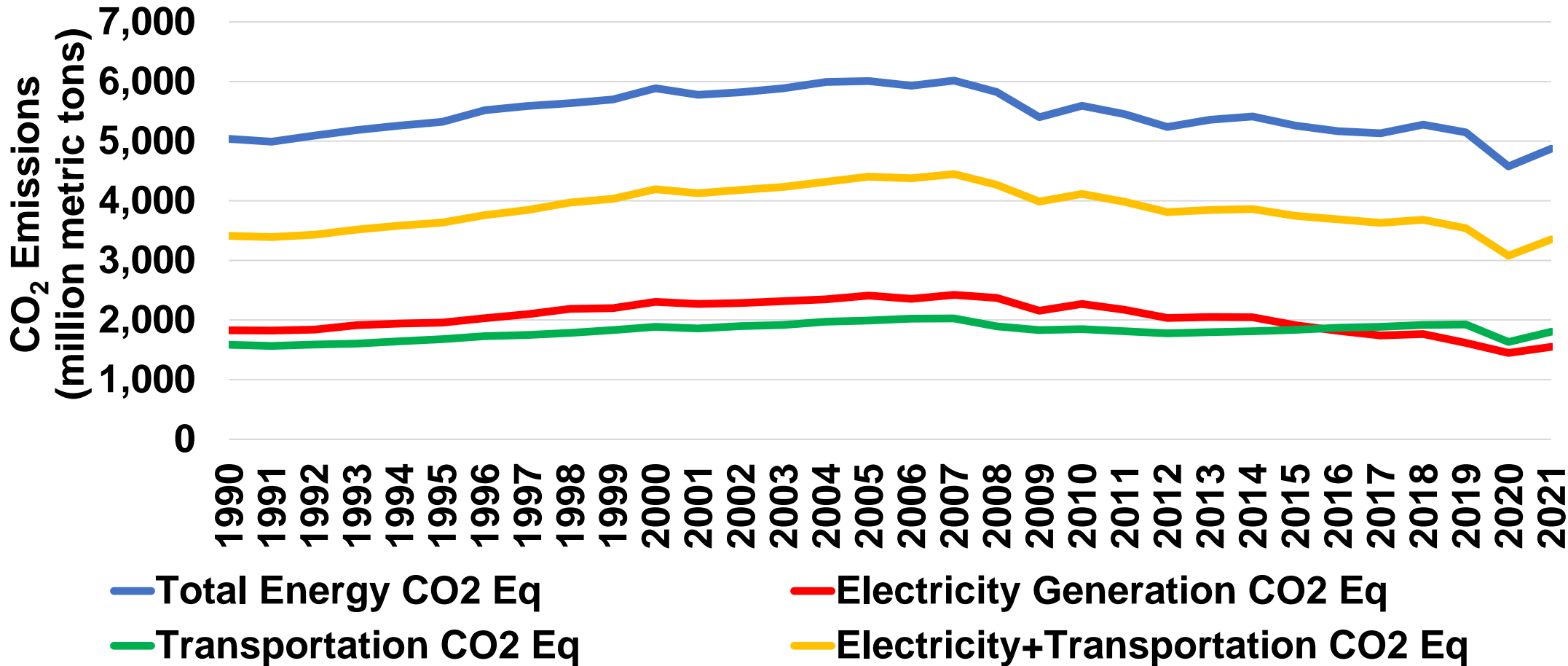
World Energy Use CO₂ Equivalent Emissions (1959-2021)



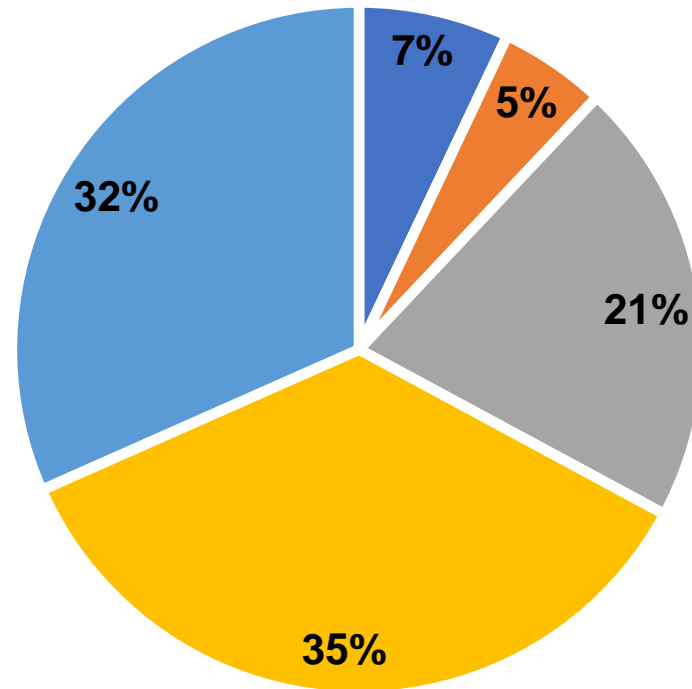
U.S. Monthly Energy Use CO₂ Equivalent Emissions (through March 2022)



U.S. Fossil Fuel CO₂ Equivalent Emissions (1990-2021)



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



■ Residential ■ Commercial ■ Industrial ■ Transportation ■ Electric Power

ASAP Regional Map

