



# **ASAP**

## **(American Solar Action Plan)**

### **PV-Wind Monthly Data Slideshow**

**August 2022**

**ASAP**

**Website: [www.solarplan.org](http://www.solarplan.org)**

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# Highlights – May 2022



- PV capacity additions rebound to a healthy 1,350 MW; Wind capacity additions fell off pace
  - The wind capacity additions are on an annual pace slightly below the 2022 forecast
  - MW = megawatts; GW = gigawatts (1000 MW); TW = terawatts (1000 GW)
- PV electricity generation is 6.1% of total U.S. electricity generation, which is a record high.
- PV panel imports remain strong in April with a value of \$616 million; PV cell imports rebound.
- PV share prices increase significantly in July. The TAN ETF shares increased 19.9% in July.
- President Joe Biden waived tariffs on solar panels imported from Cambodia, Malaysia, Thailand and Vietnam for two years. This action clarifies PV import tariff policy and promotes demand.

# Slideshow Objectives

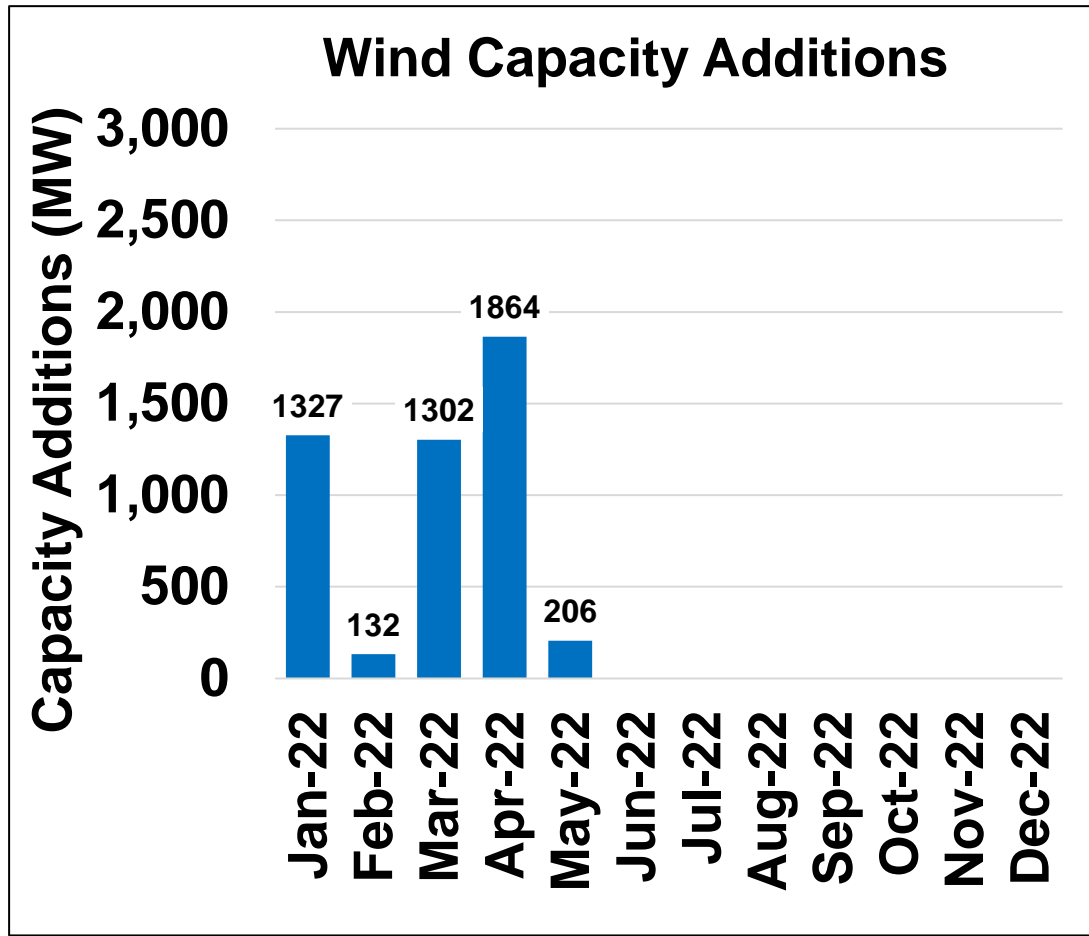
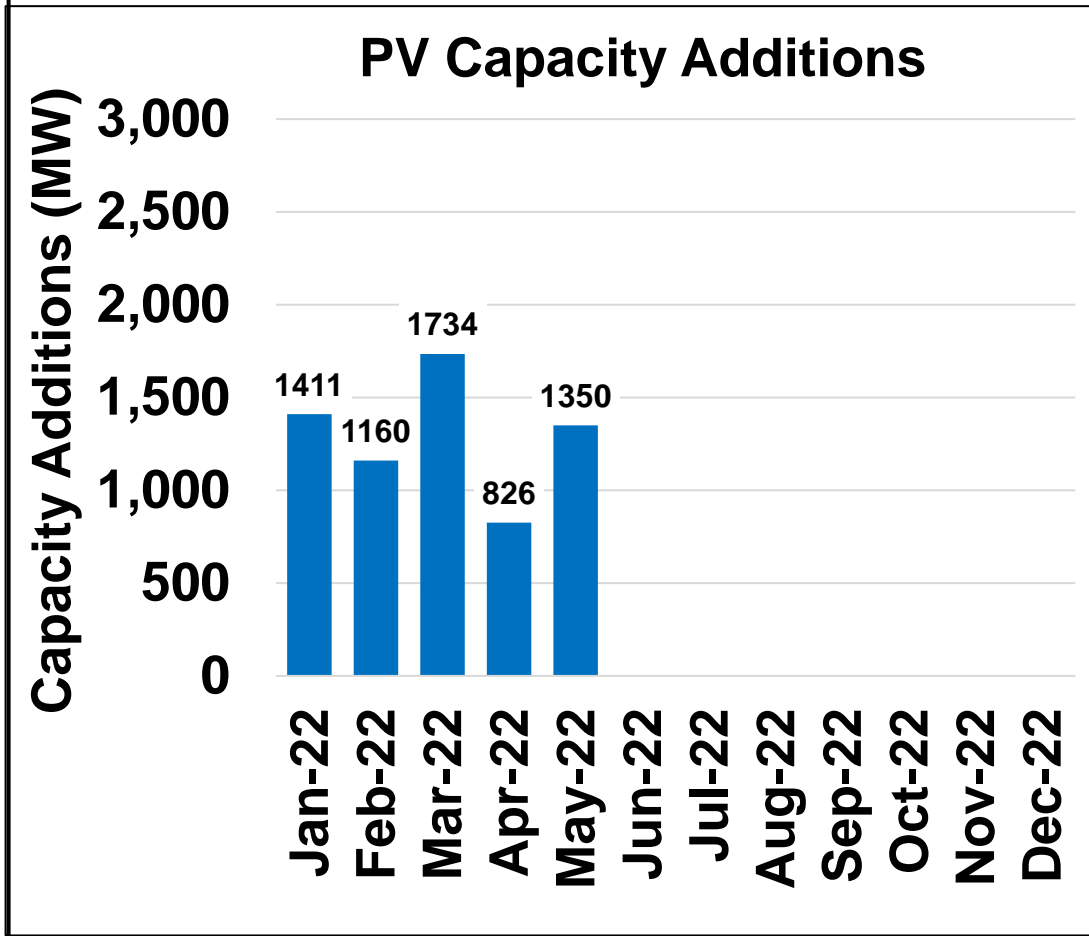


- To Document Monthly and Annual Growth in PV and Wind Capacity and Electricity Generation
  - MW = megawatts; GW = gigawatts (1000 MW); TW = terawatts (1000 GW)
- PV and Wind Capacity Additions
  - The Graphs Show Current and Past Year Monthly PV and Wind Capacity Additions
  - For Perspective, Compare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

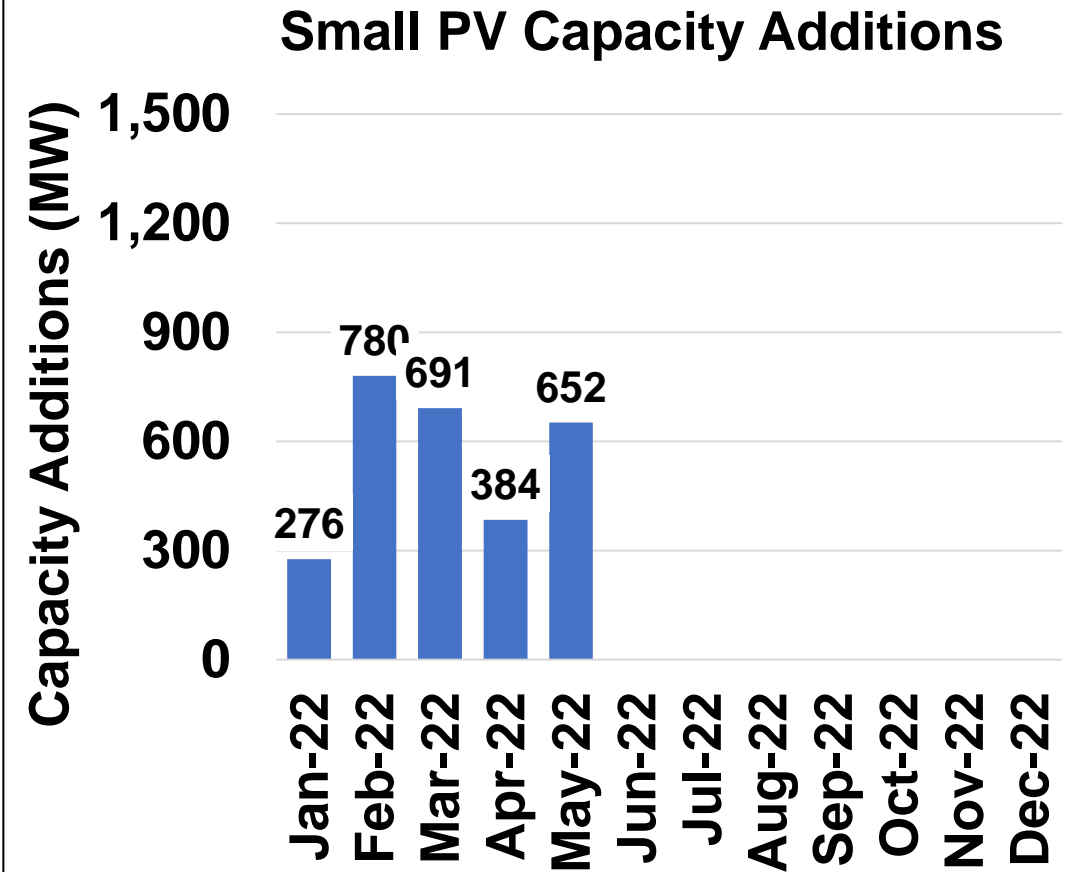
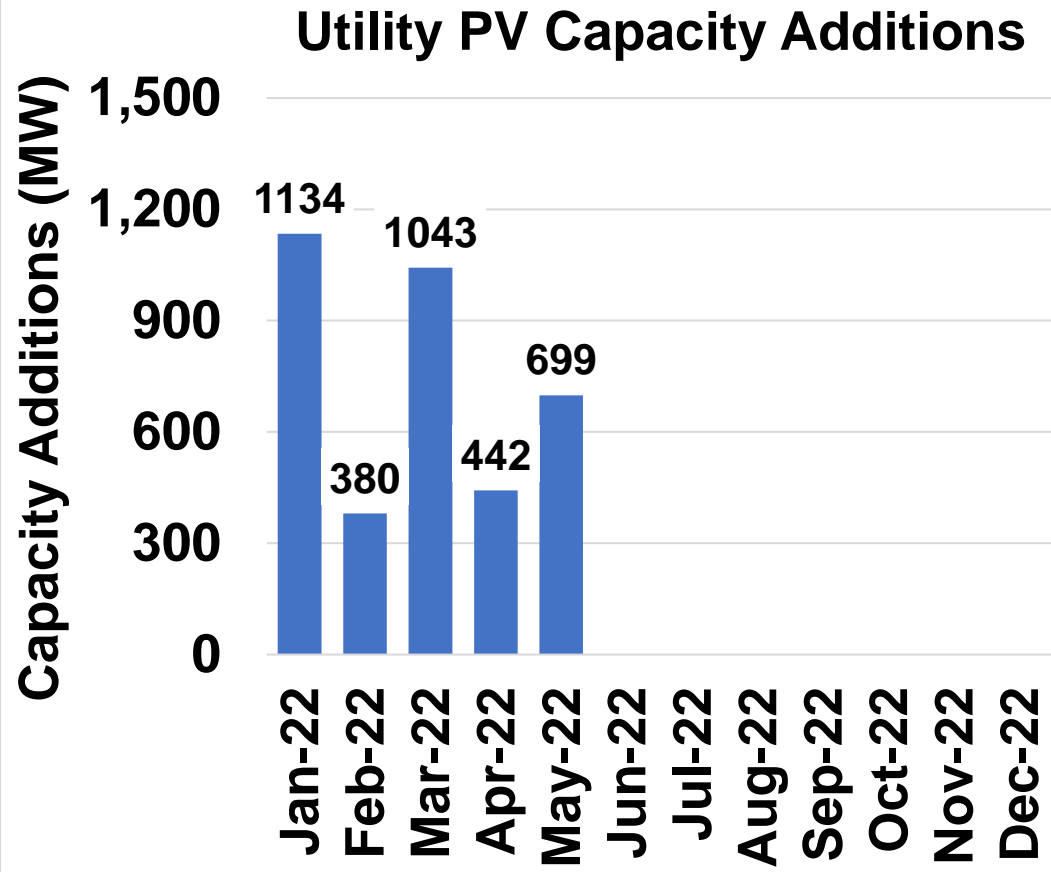


# U.S. PV and Wind Capacities

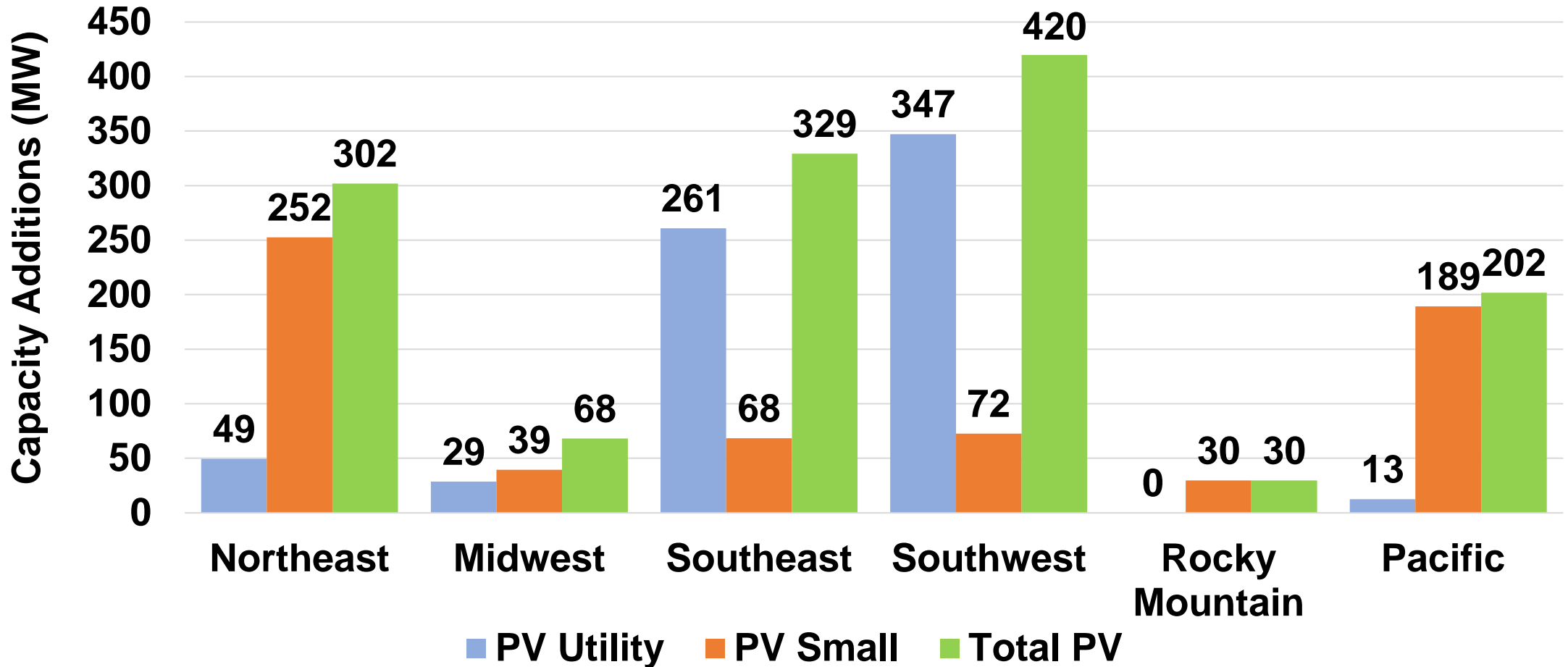
# U.S. PV and Wind Monthly Net Capacity Additions 2022 (through May)



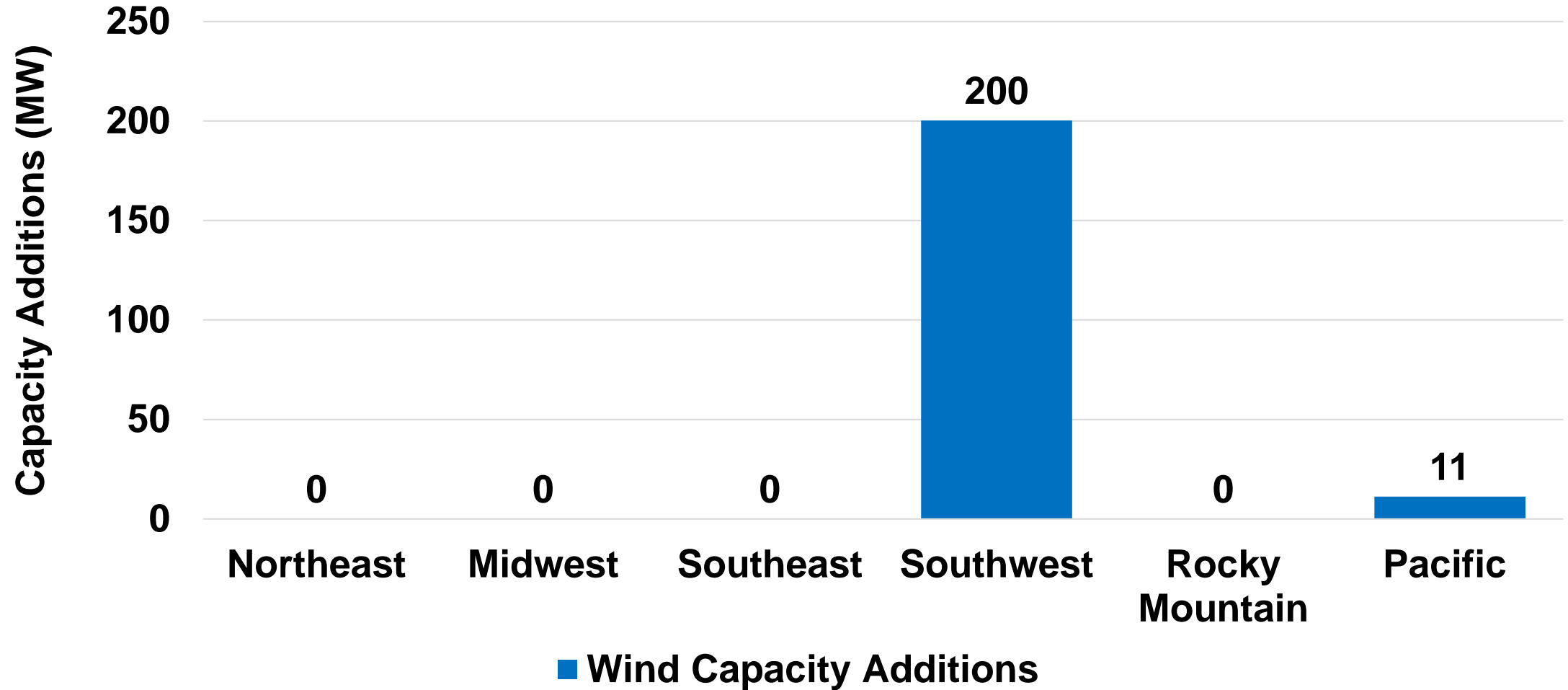
# Monthly Utility and Small PV Net Capacity Additions 2022 (through May)



# Regional PV Net Capacity Additions May 2022

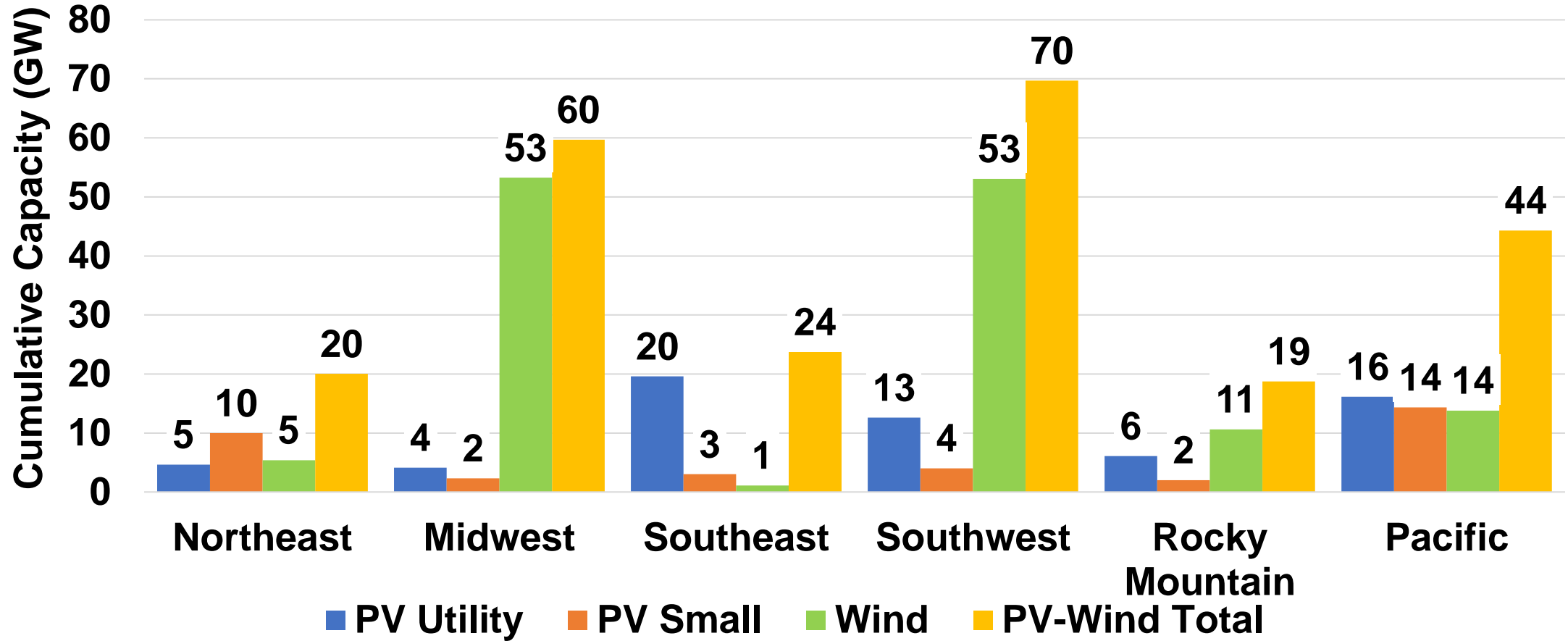


# Regional Wind Net Capacity Additions May 2022

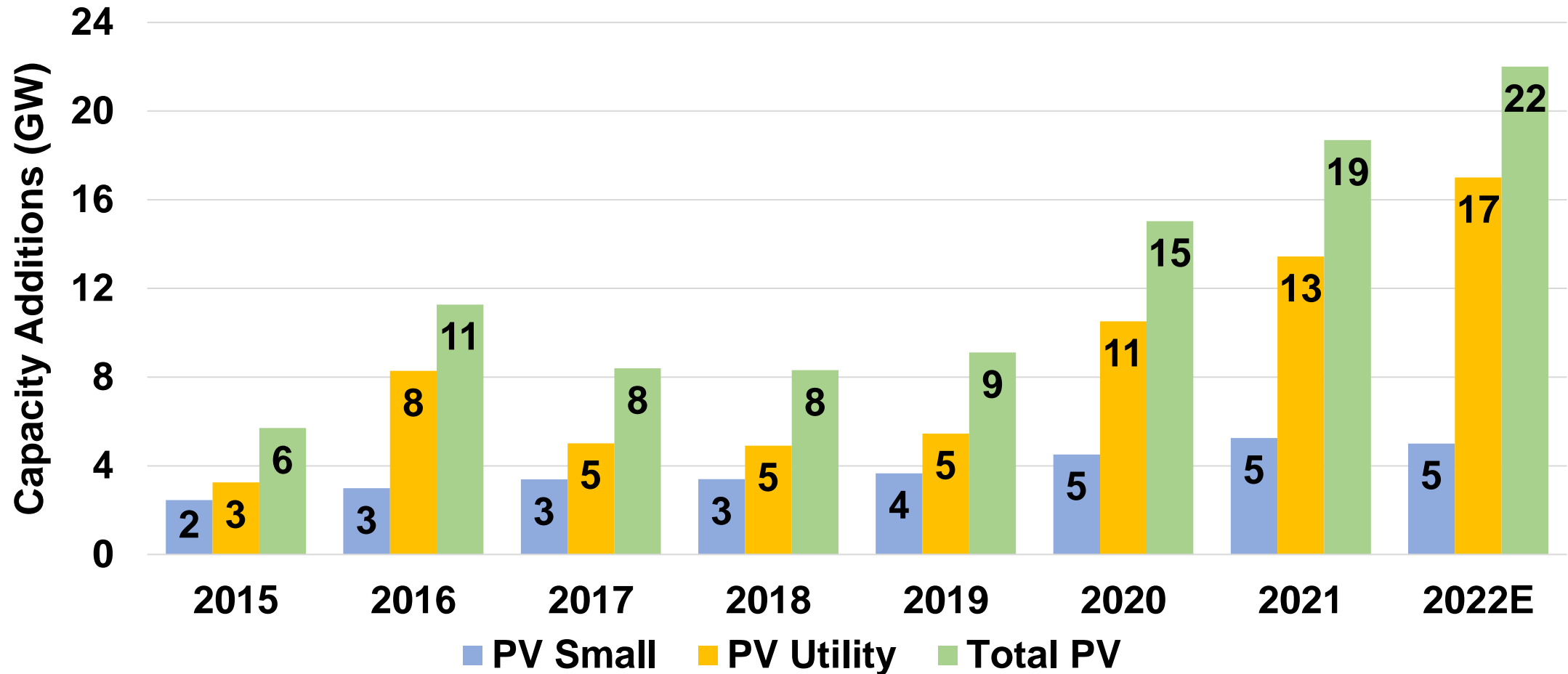




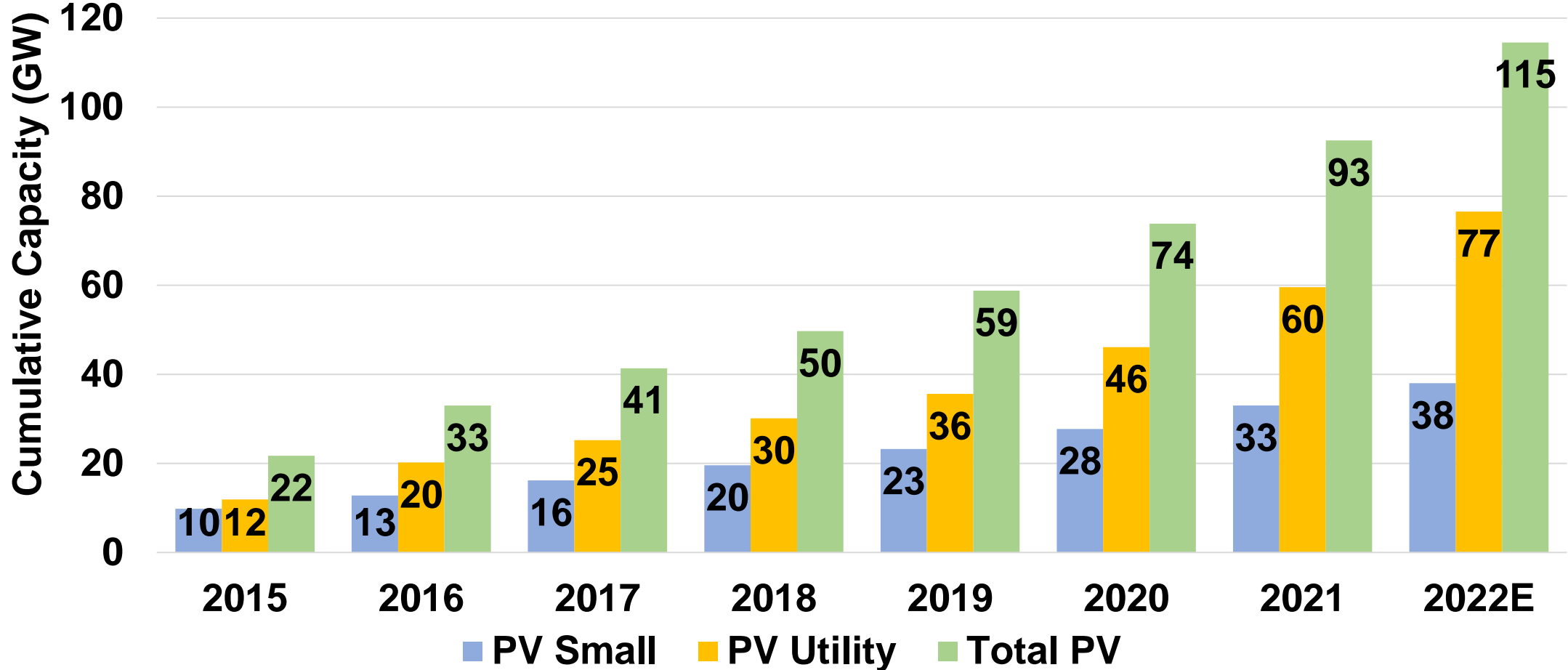
# PV and Wind Cumulative Capacity by Region through May 2022



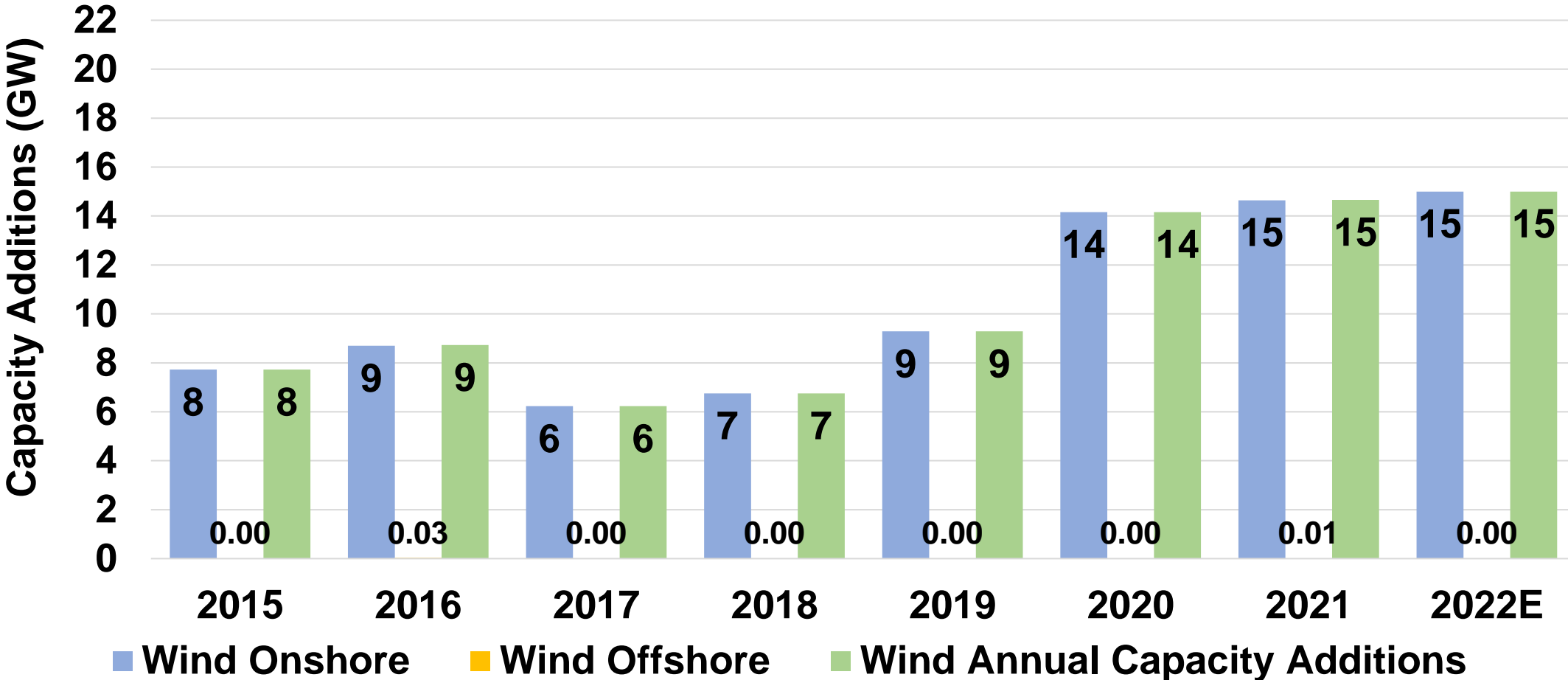
# PV Annual Capacity Additions 2022 Forecast



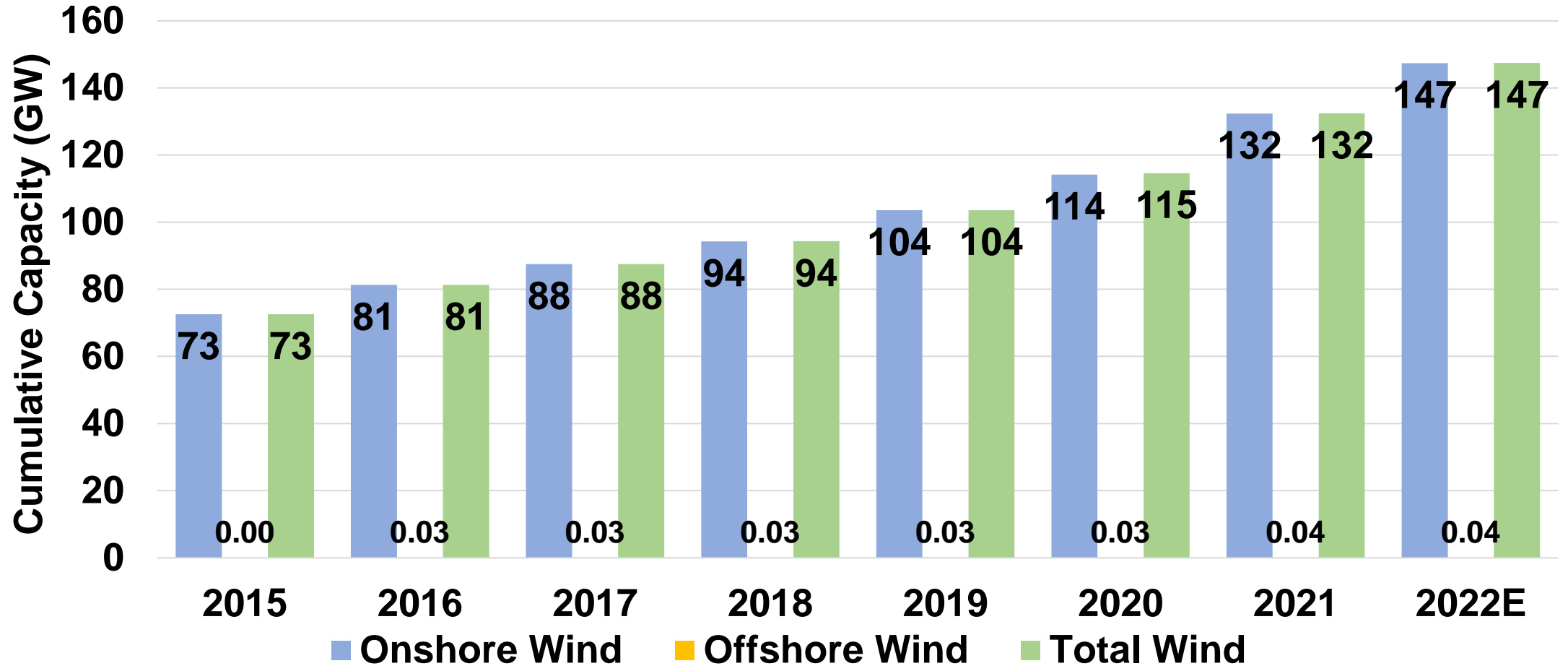
# PV Annual Cumulative Capacity 2022 Forecast



# Wind Annual Capacity Additions 2022 Forecast



# Wind Annual Cumulative Capacity 2022 Forecast

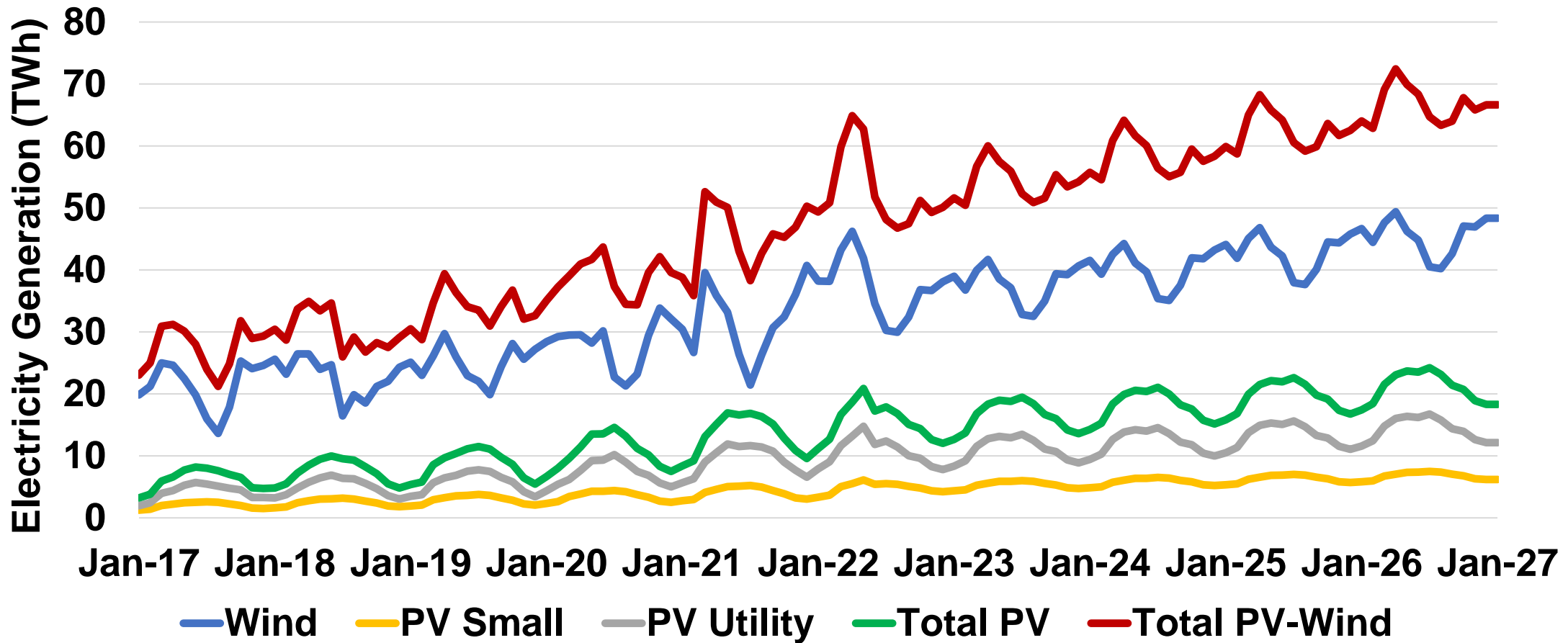




# U.S. PV and Wind Electricity Generation

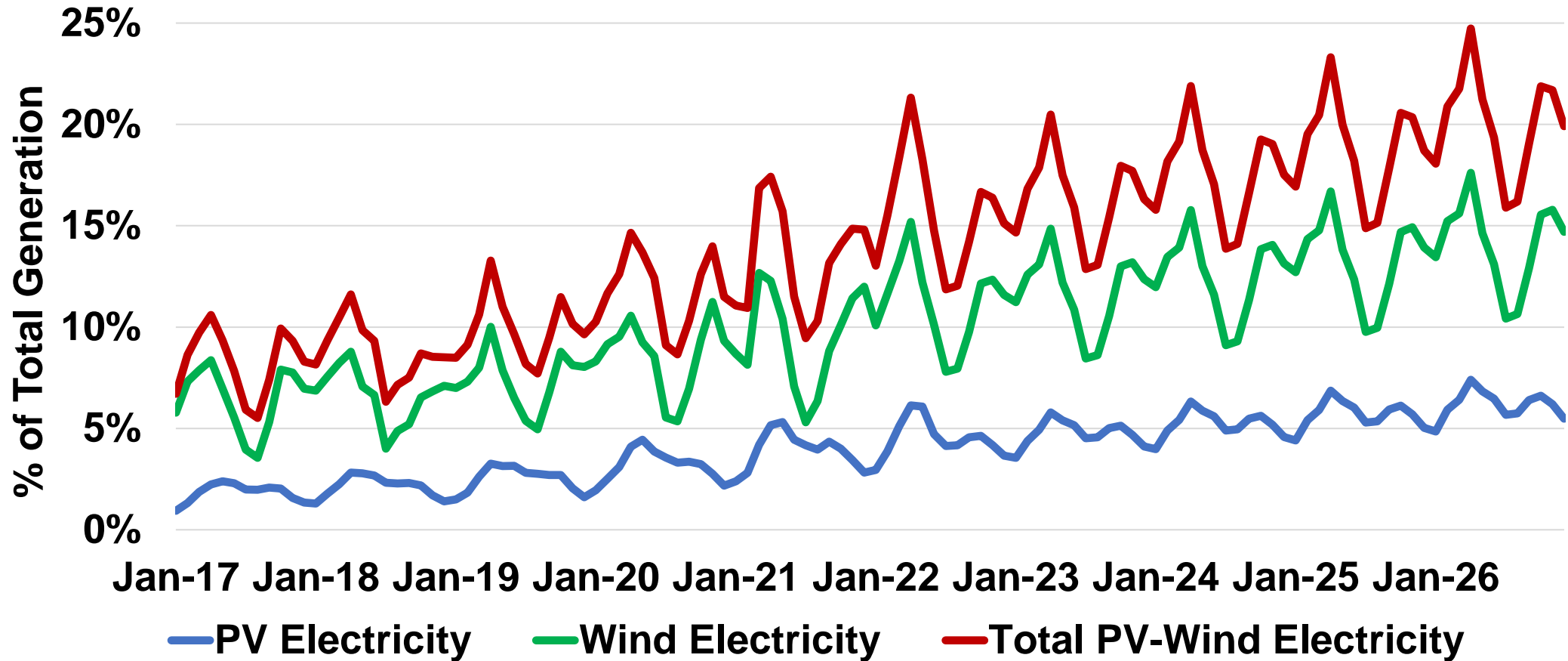
# U.S. PV & Wind Monthly Electricity Generation (2017-2026)

Actual through May 2022; Forecast through Dec. 2026



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

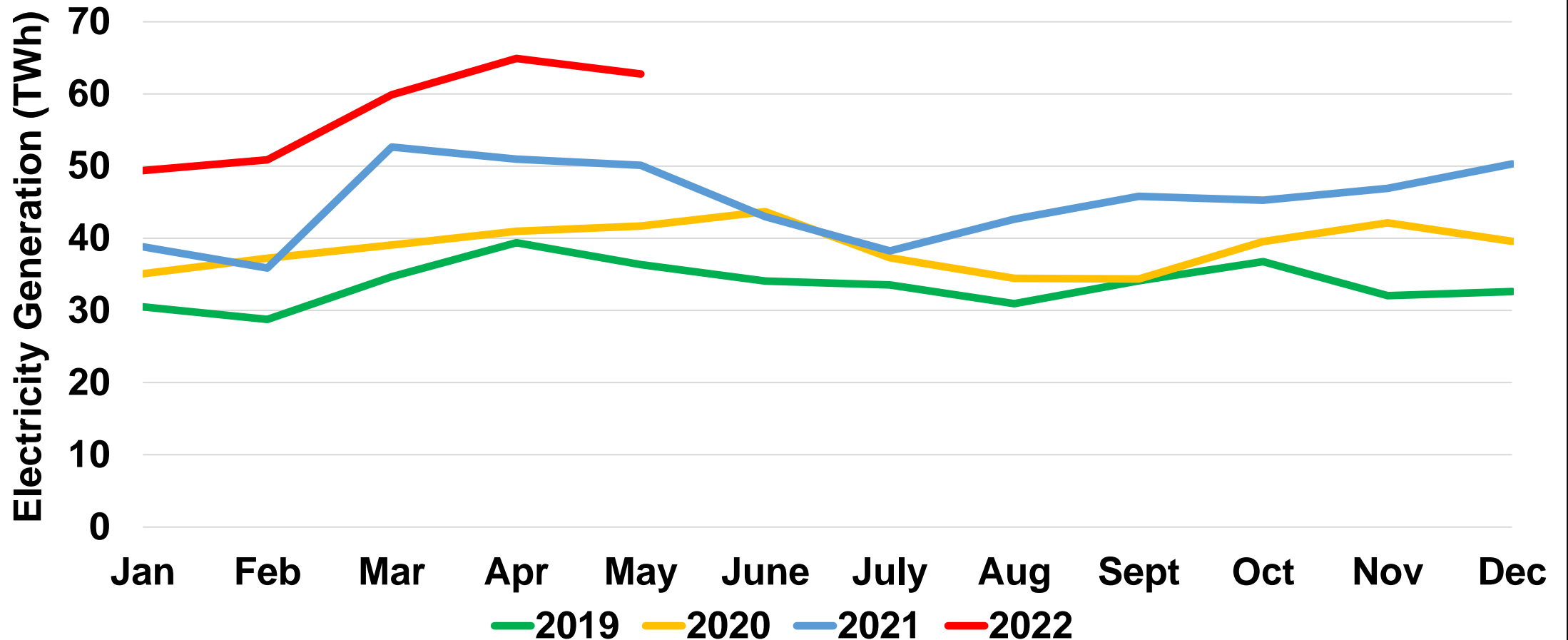
# U.S. PV & Wind Electricity as % of Total Generation Actual through May 2022; Forecast through Dec. 2026



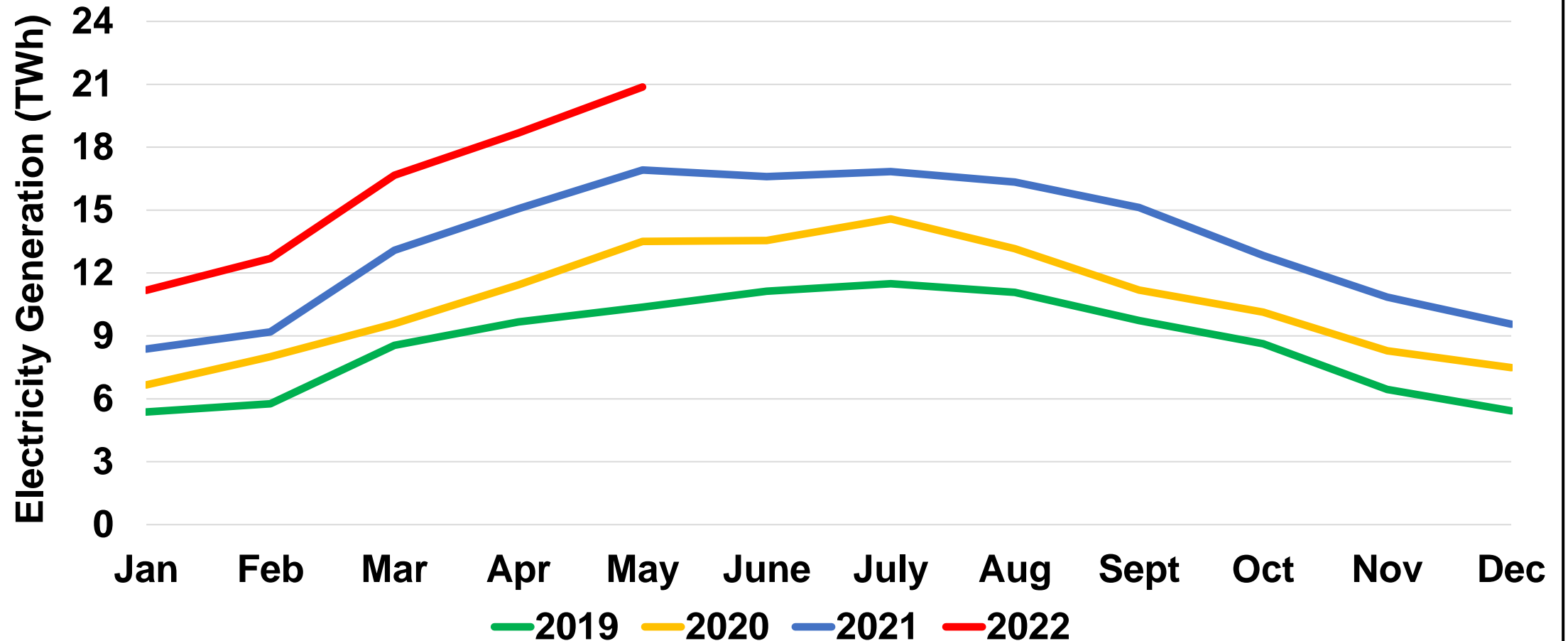
Note: Fossil fuel electricity generation was 60% of total 2020 electricity generation.



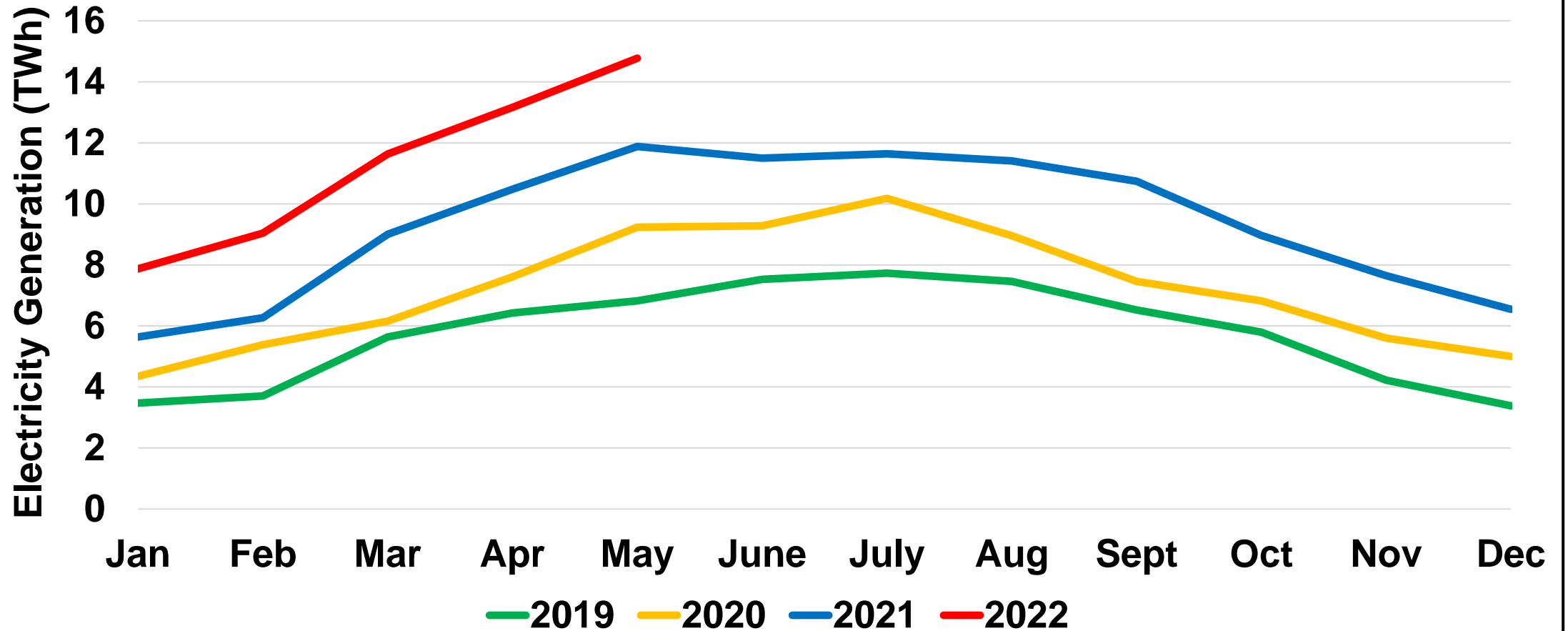
# Combined PV and Wind Electricity Generation Year-on-Year (through May 2022)



# PV Electricity Generation Year-on-Year (through May 2022)

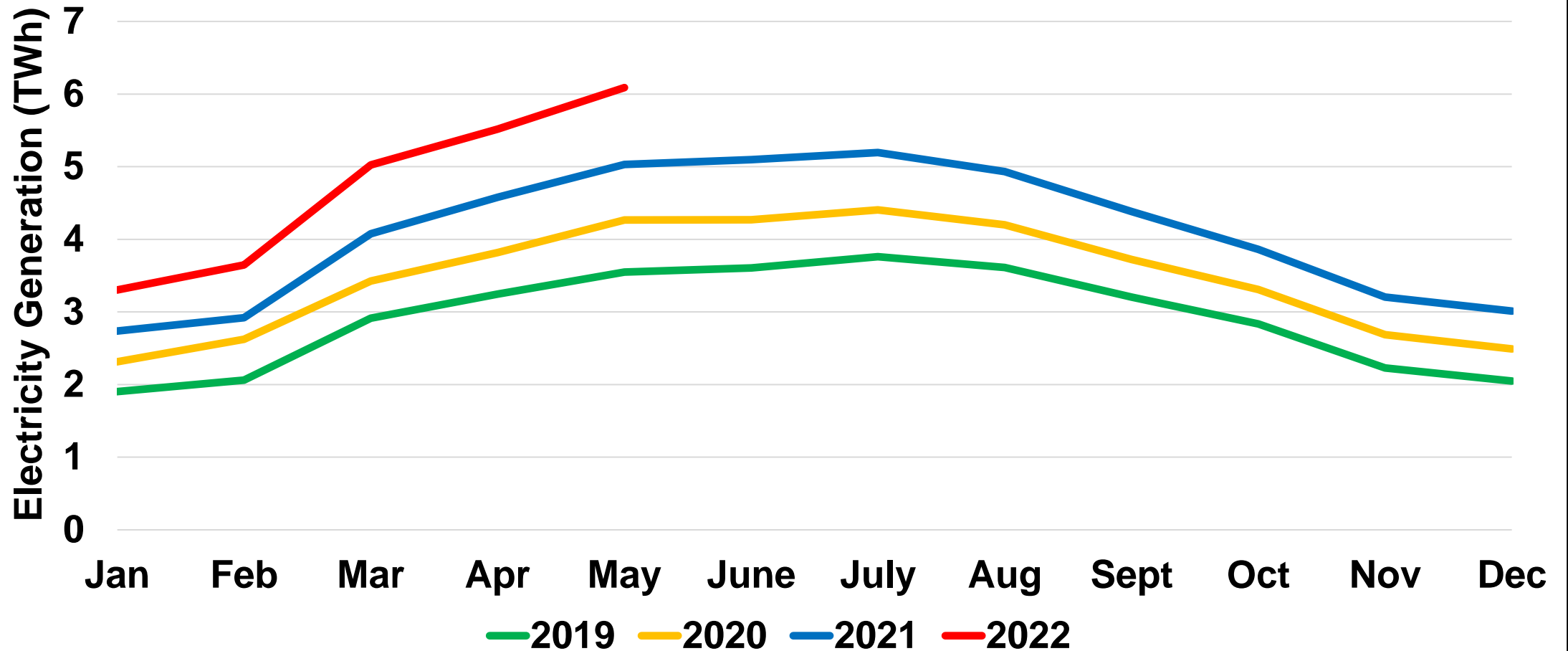


# Utility PV Electricity Generation Year-on-Year (through May 2022)

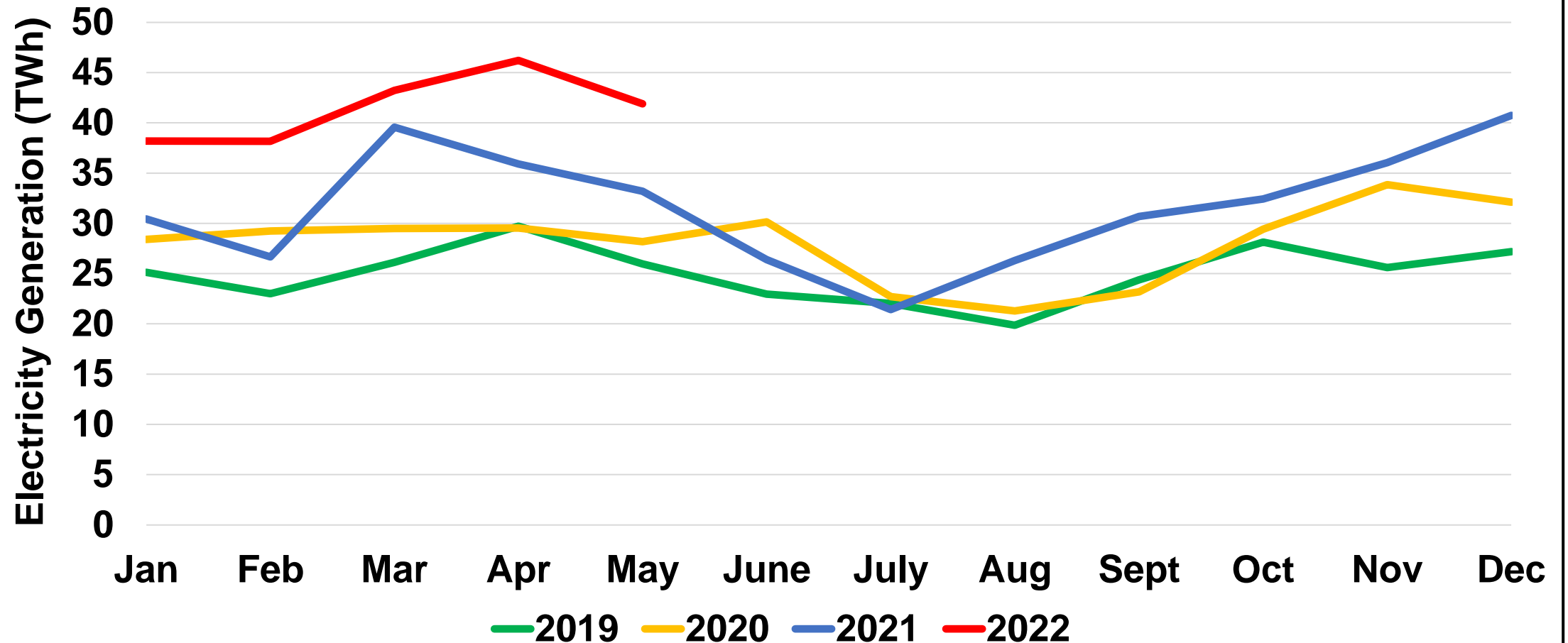


Note: PV Utility is greater than 1.0 MW

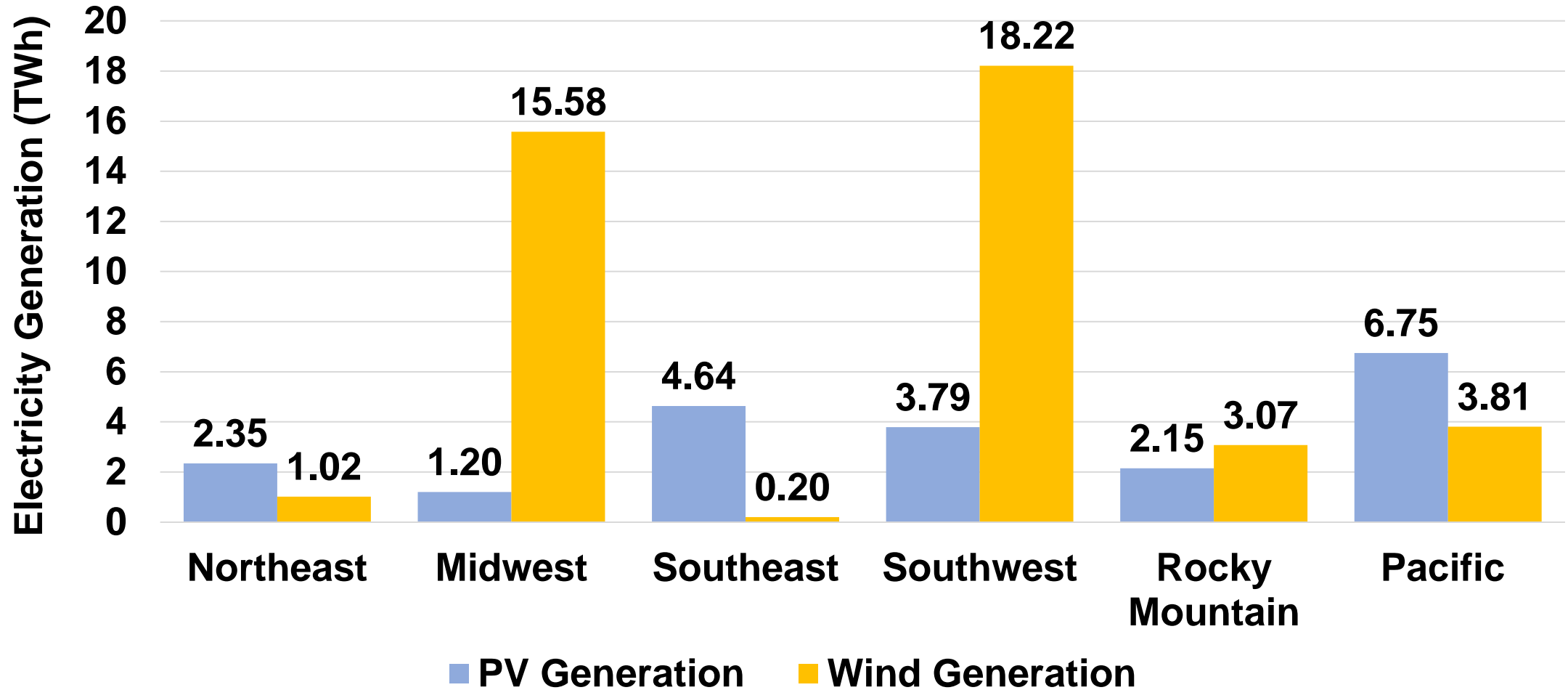
# Small PV Electricity Generation Year-on-Year (through May 2022)



# Wind Electricity Generation Year-on-Year (through May 2022)



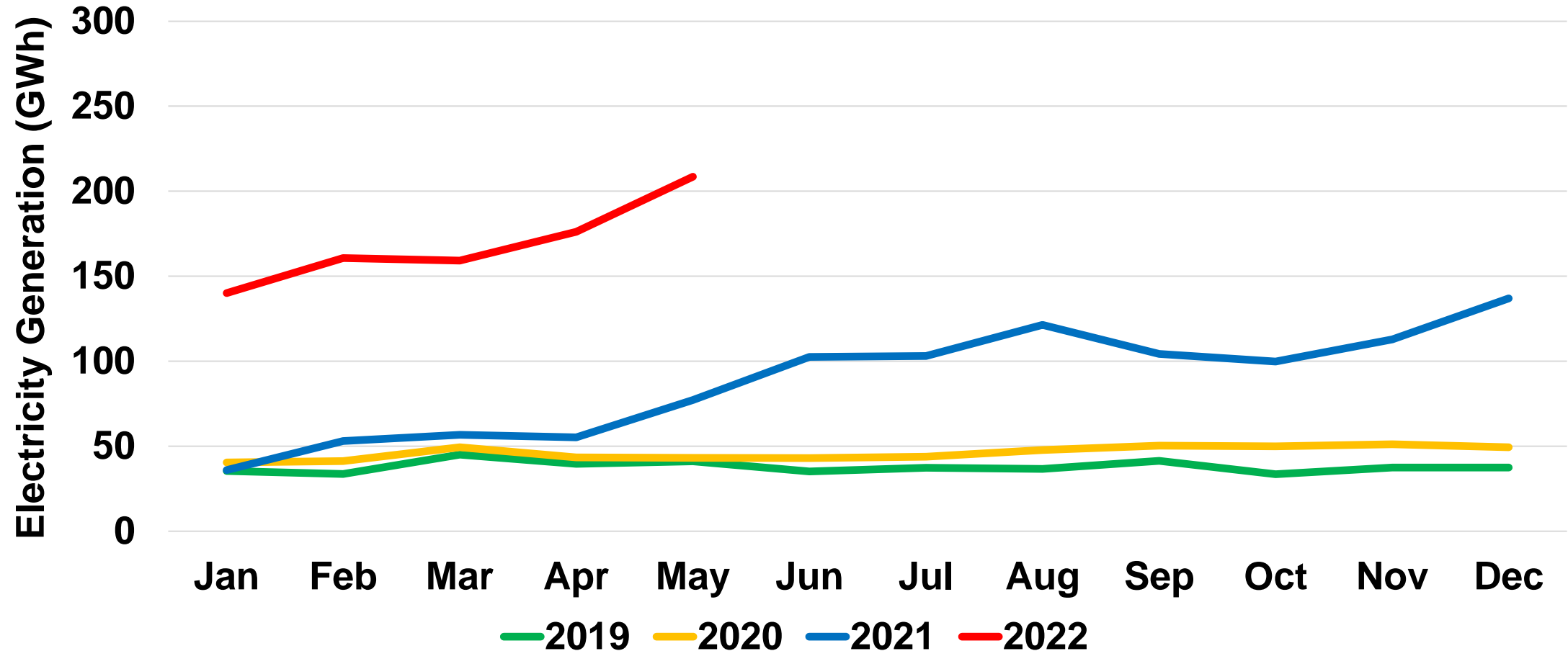
# Regional PV & Wind Electricity Generation May 2022





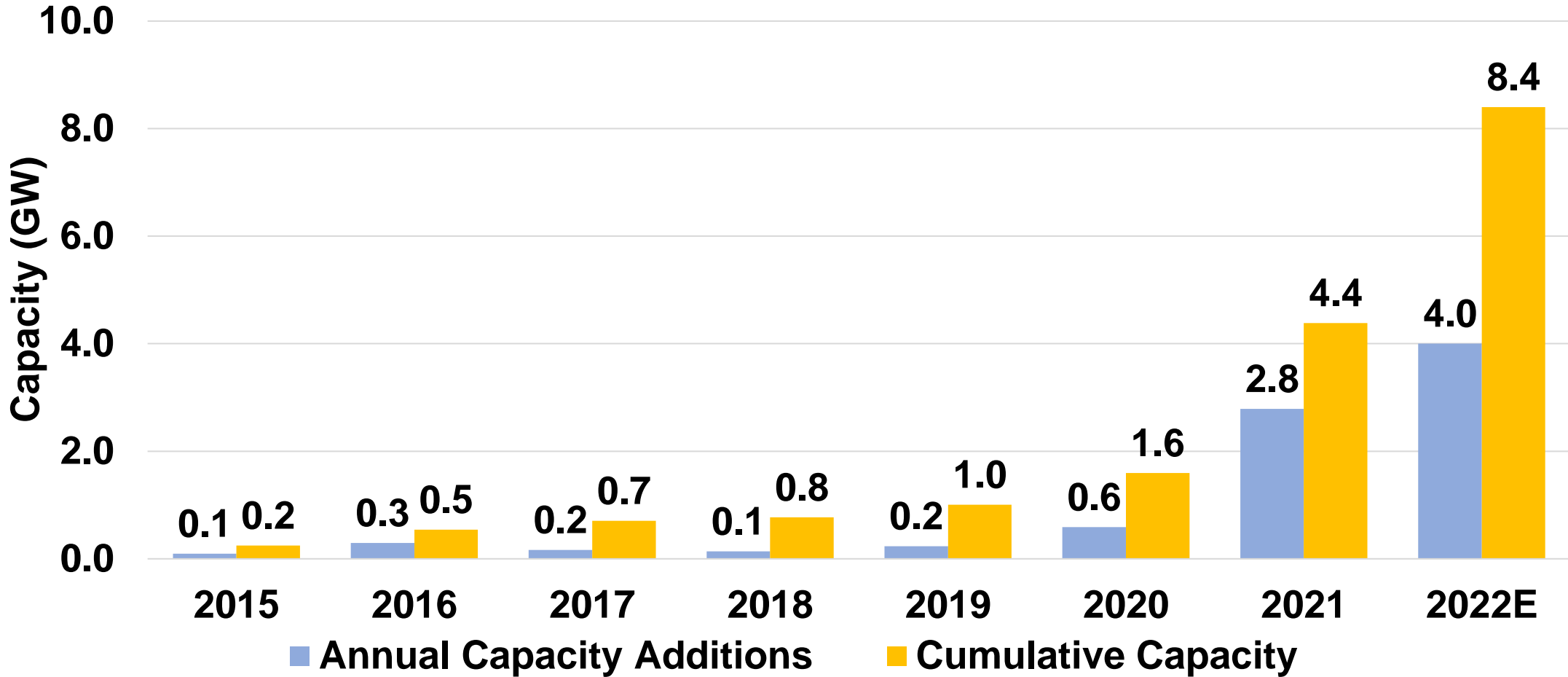
# U.S. Battery Storage

# Battery Electricity Generation Year-on-Year (through May 2022)





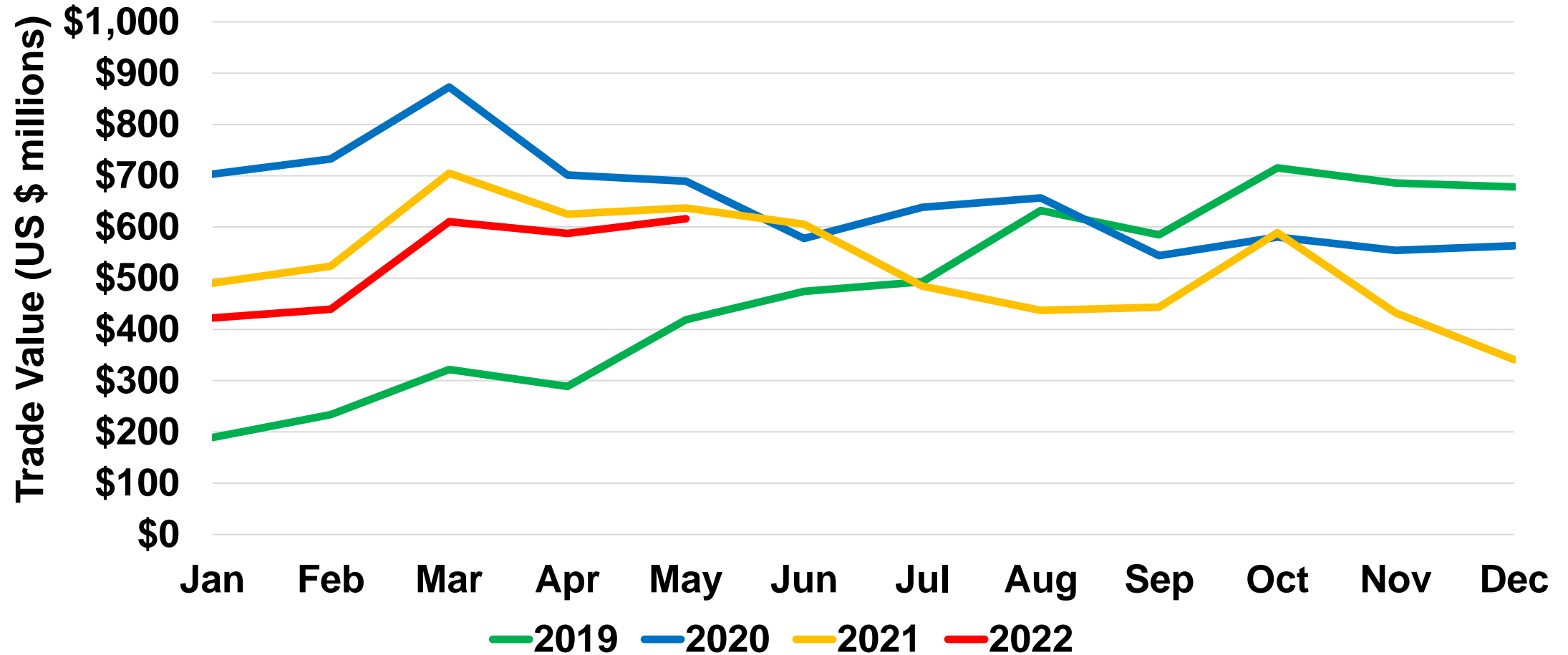
# Battery Storage Cumulative Capacity and Annual Capacity Additions 2022 Forecast



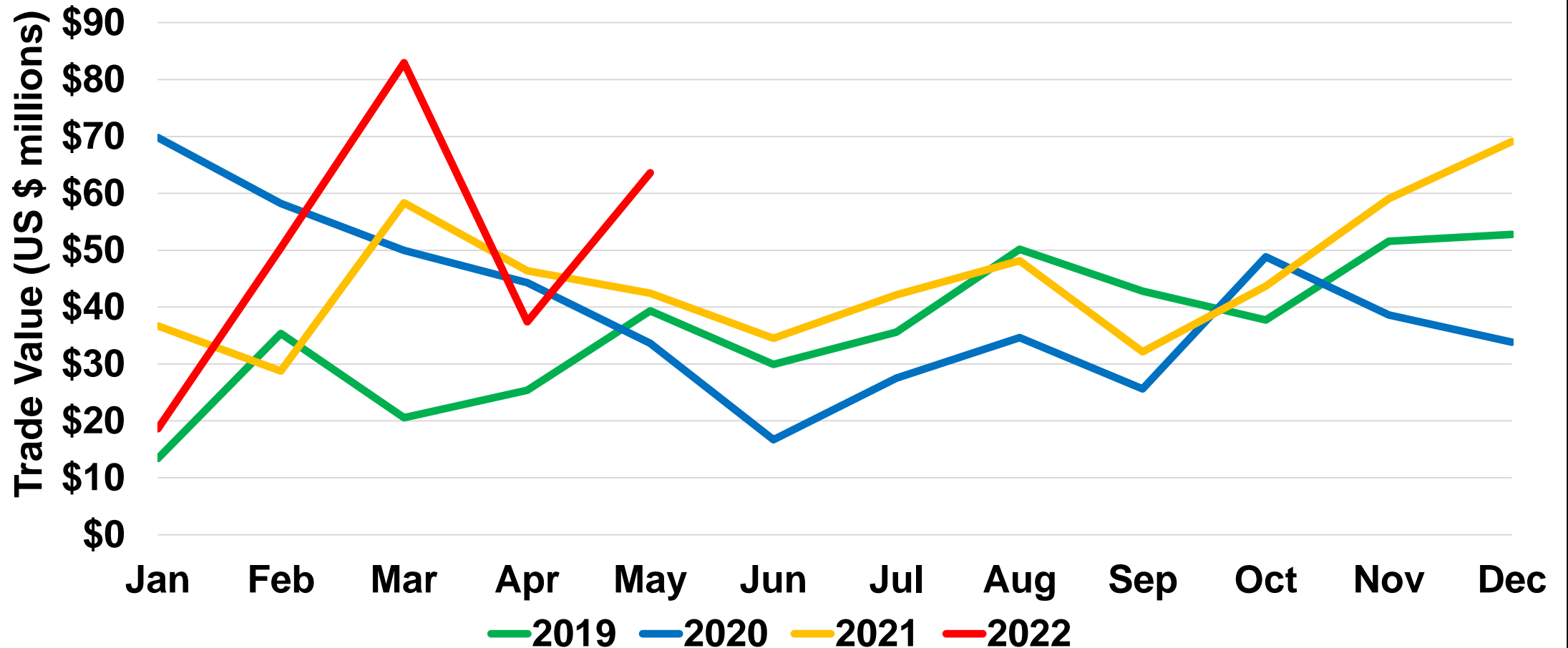


# **U.S. PV Trade (Cells and Modules)**

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



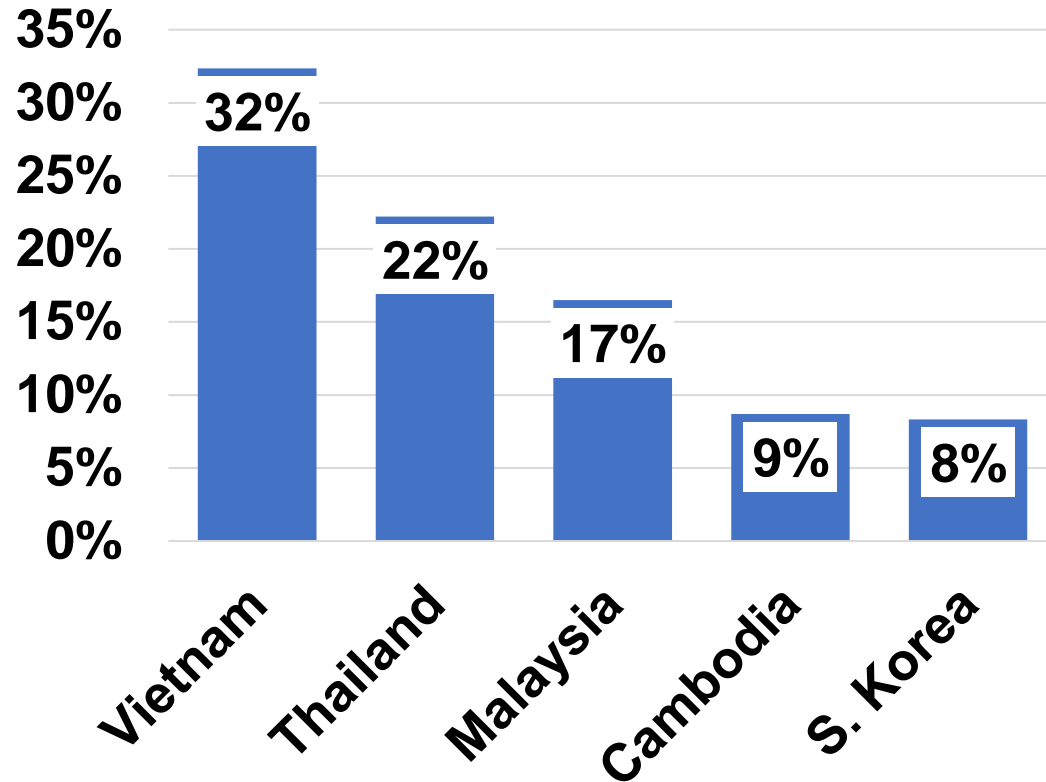
# U.S. Year-on-Year PV Cell Imports (through May 2022)



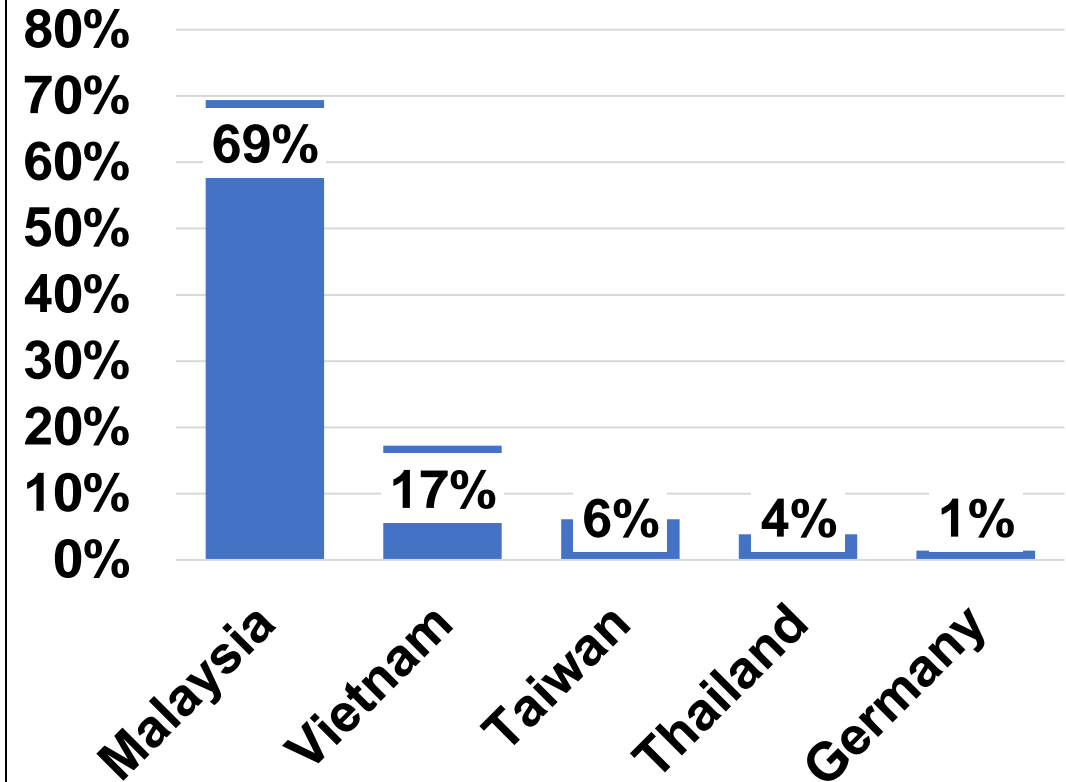
# Monthly U.S. PV Panel and Cell Imports by Country May 2022



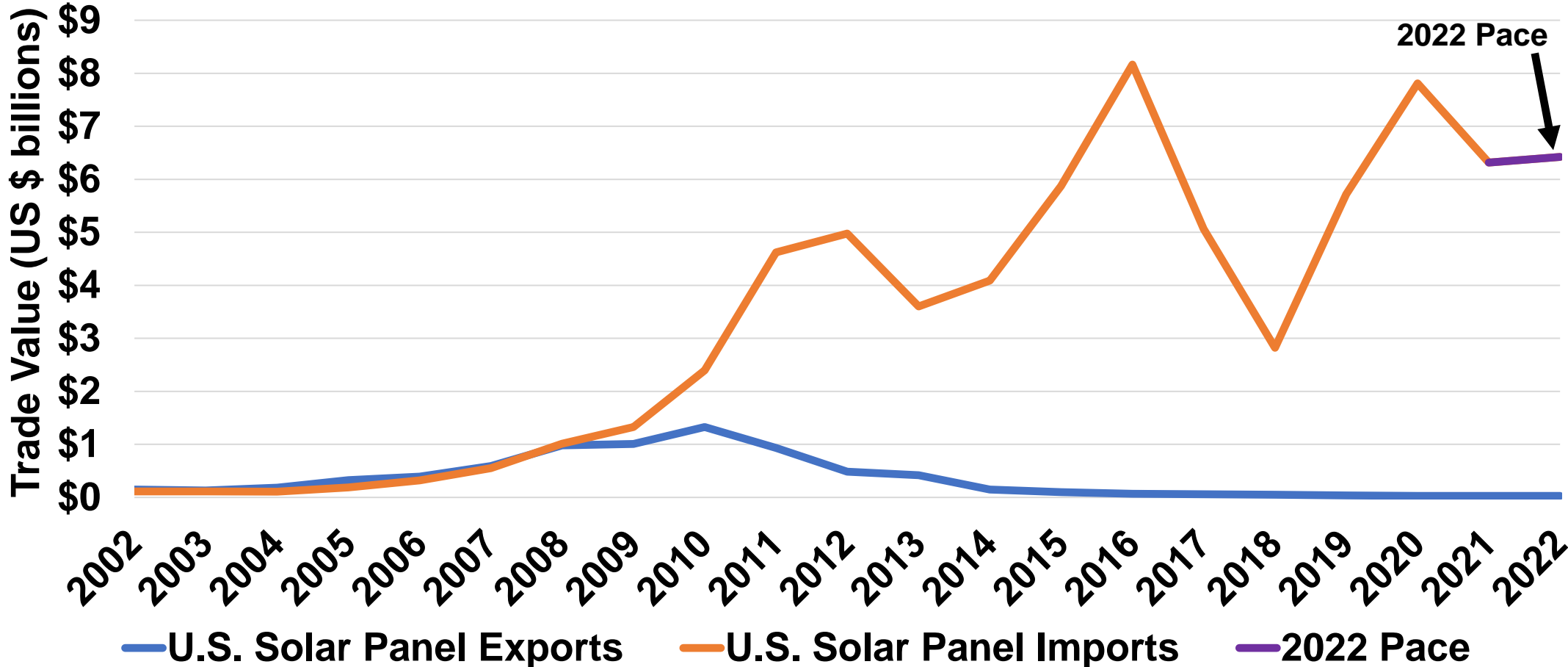
## U.S. PV Panel Imports by Country



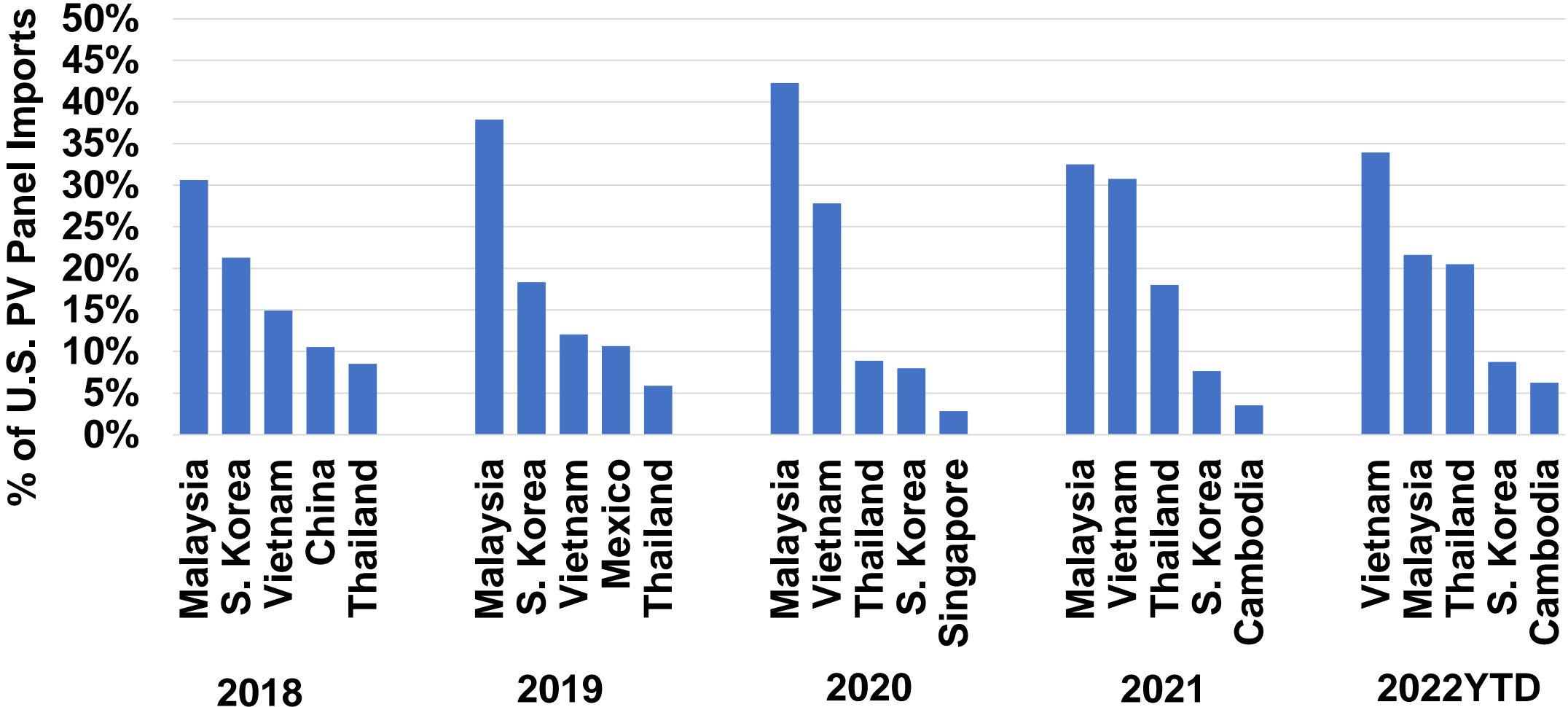
## U.S. PV Cell Imports by Country



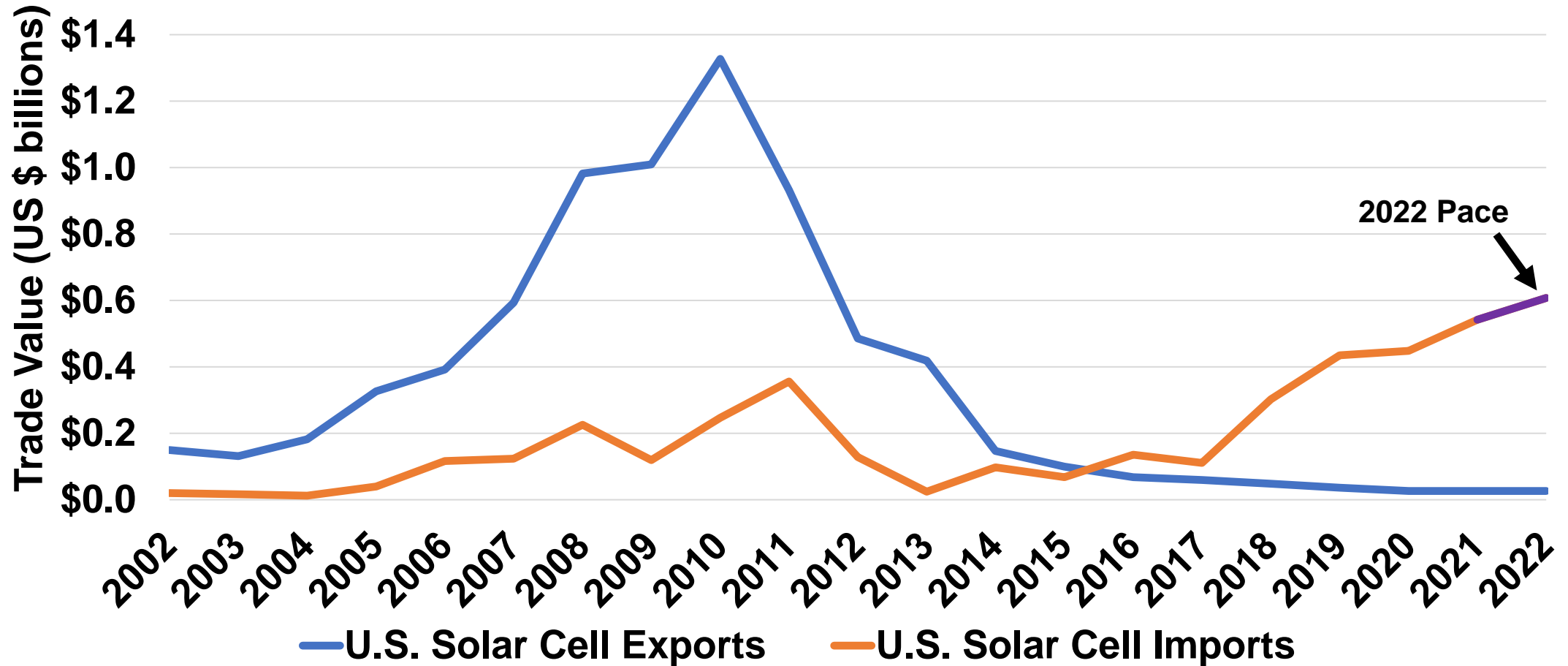
# Annual U.S. PV Panel Trade through May 2022



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

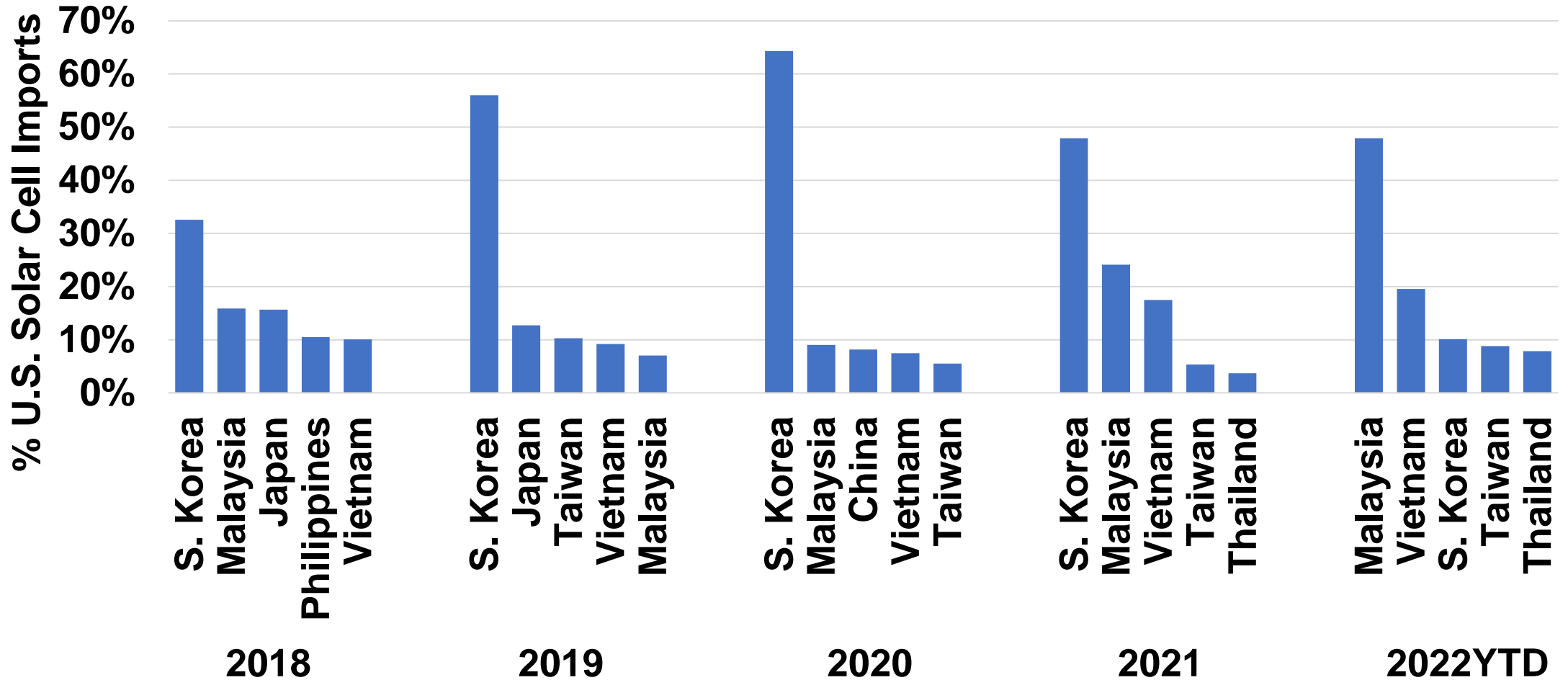


# Annual U.S. PV Cell Trade through May 2022





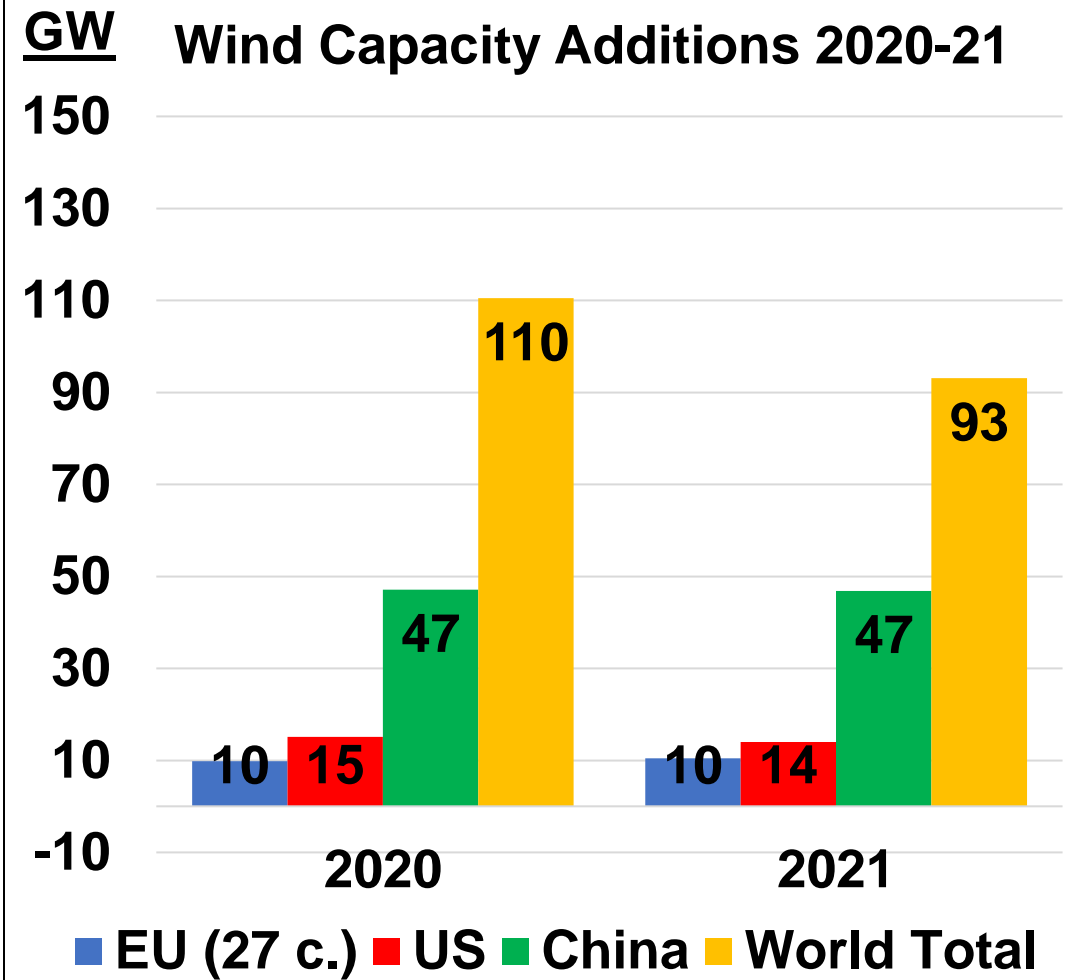
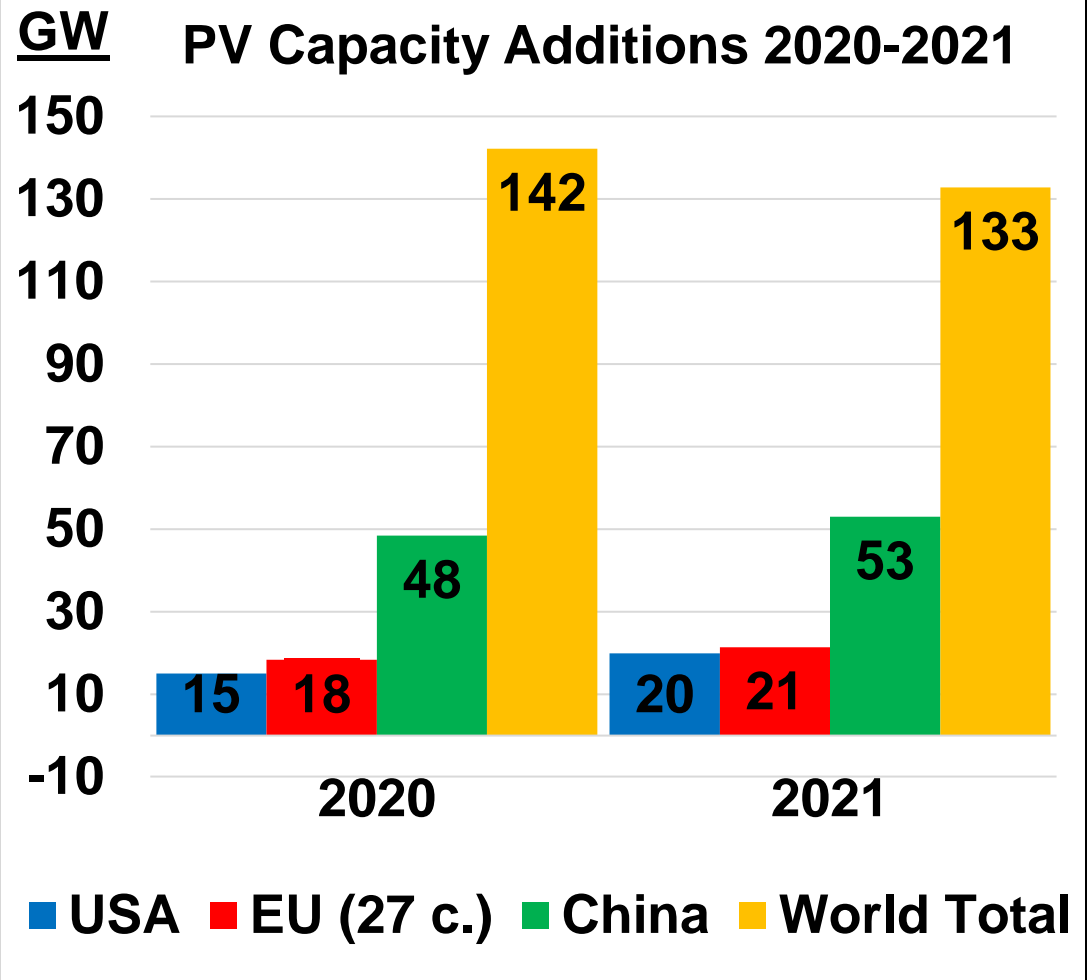
# Annual U.S. PV Cell Imports Rank Order of Countries through May 2022





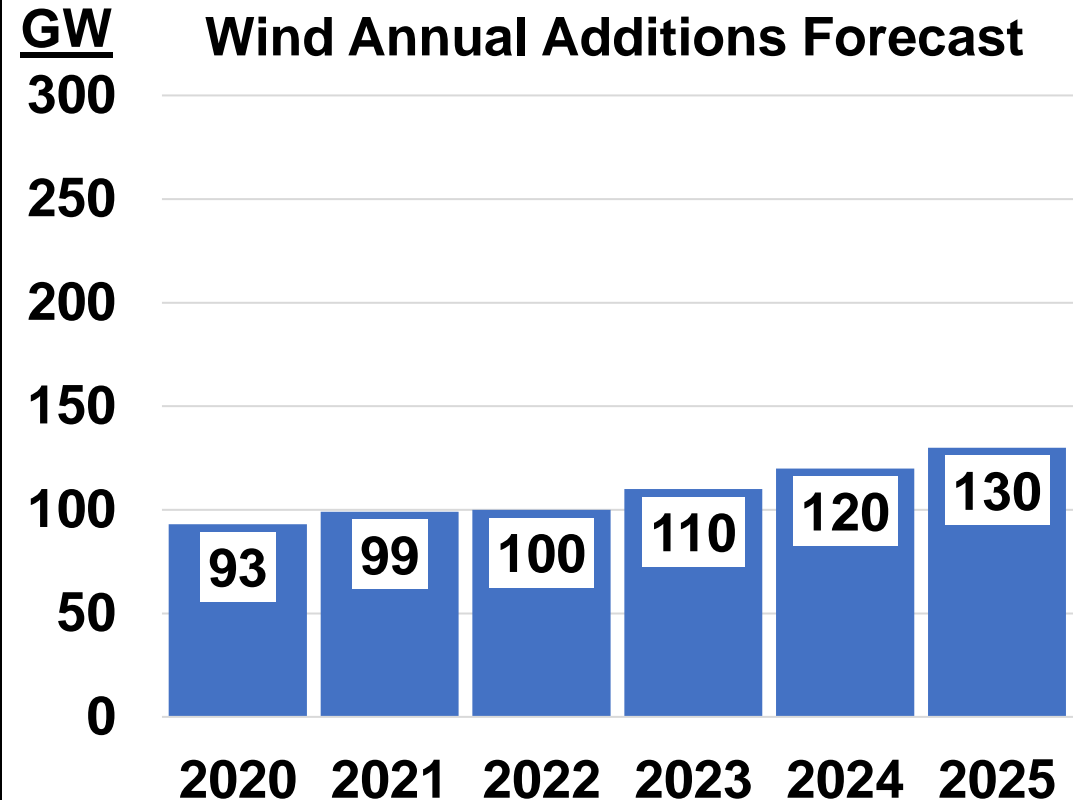
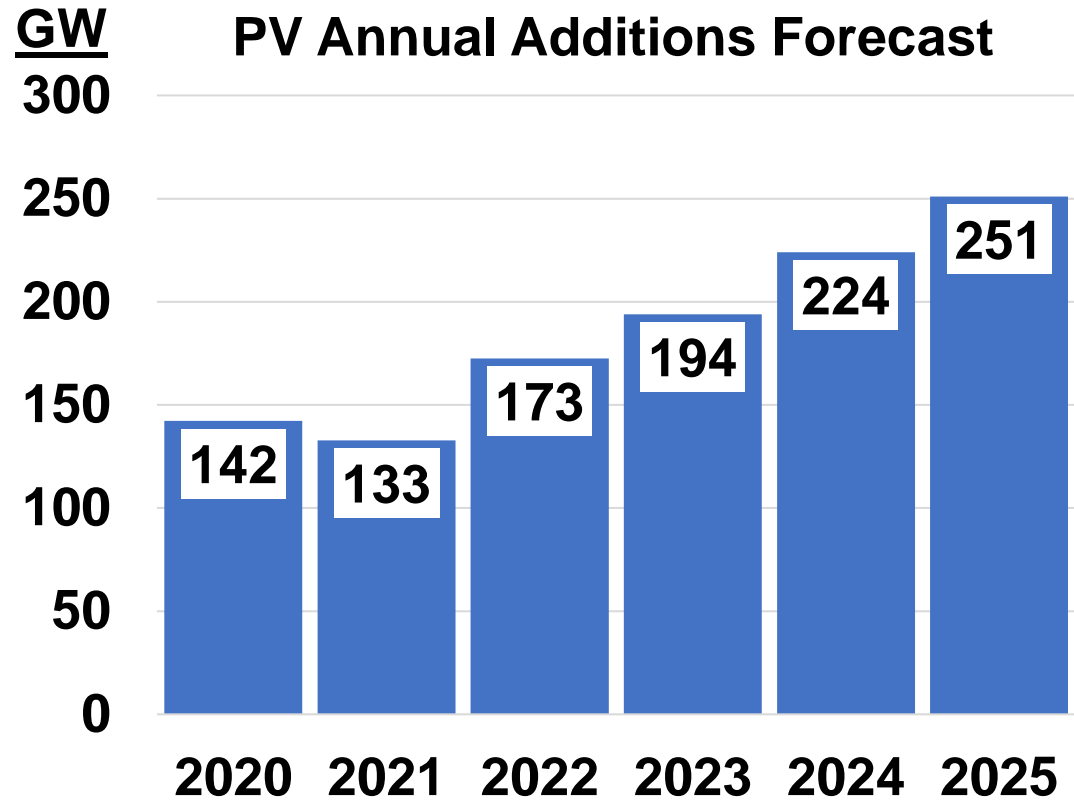
# World PV and Wind

# 2020-2021 World PV and Wind Capacity Additions



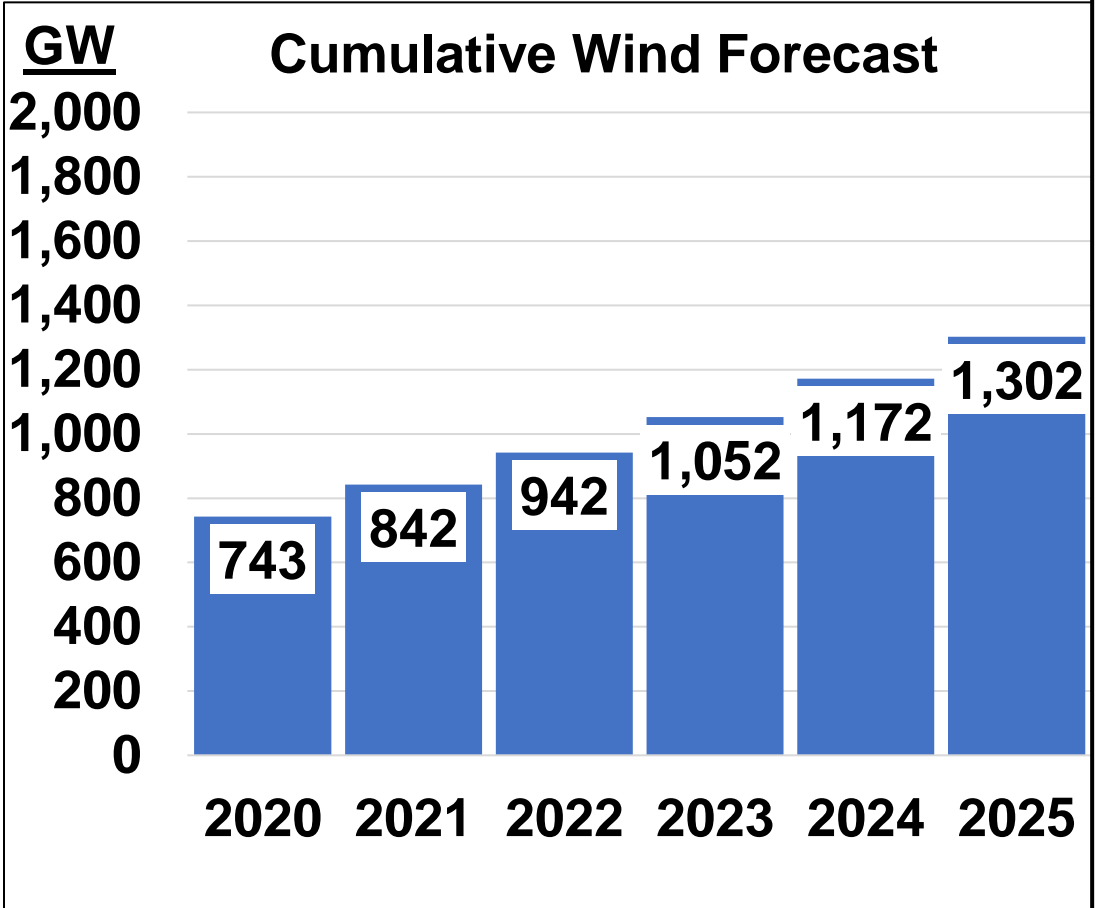
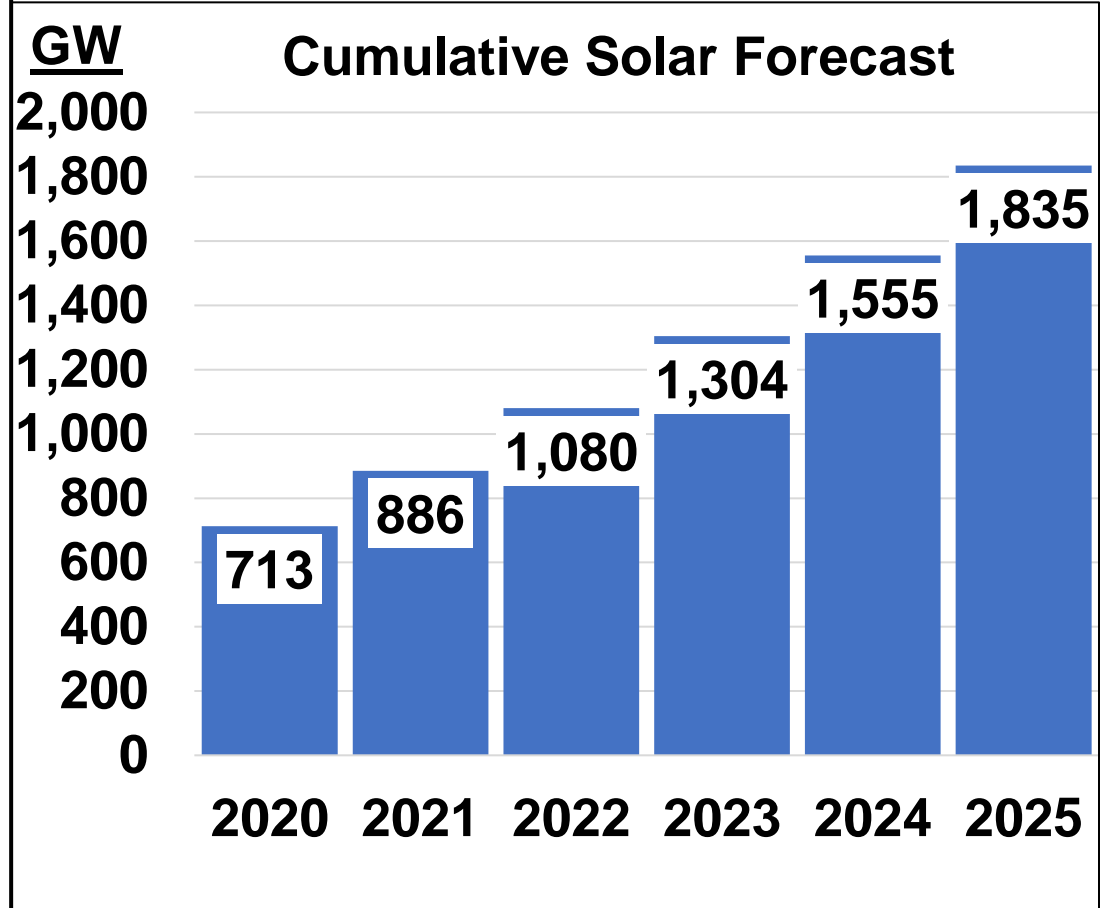
# World PV and Wind Annual Capacity Additions

## Actual through 2021; Forecast 2022-2025

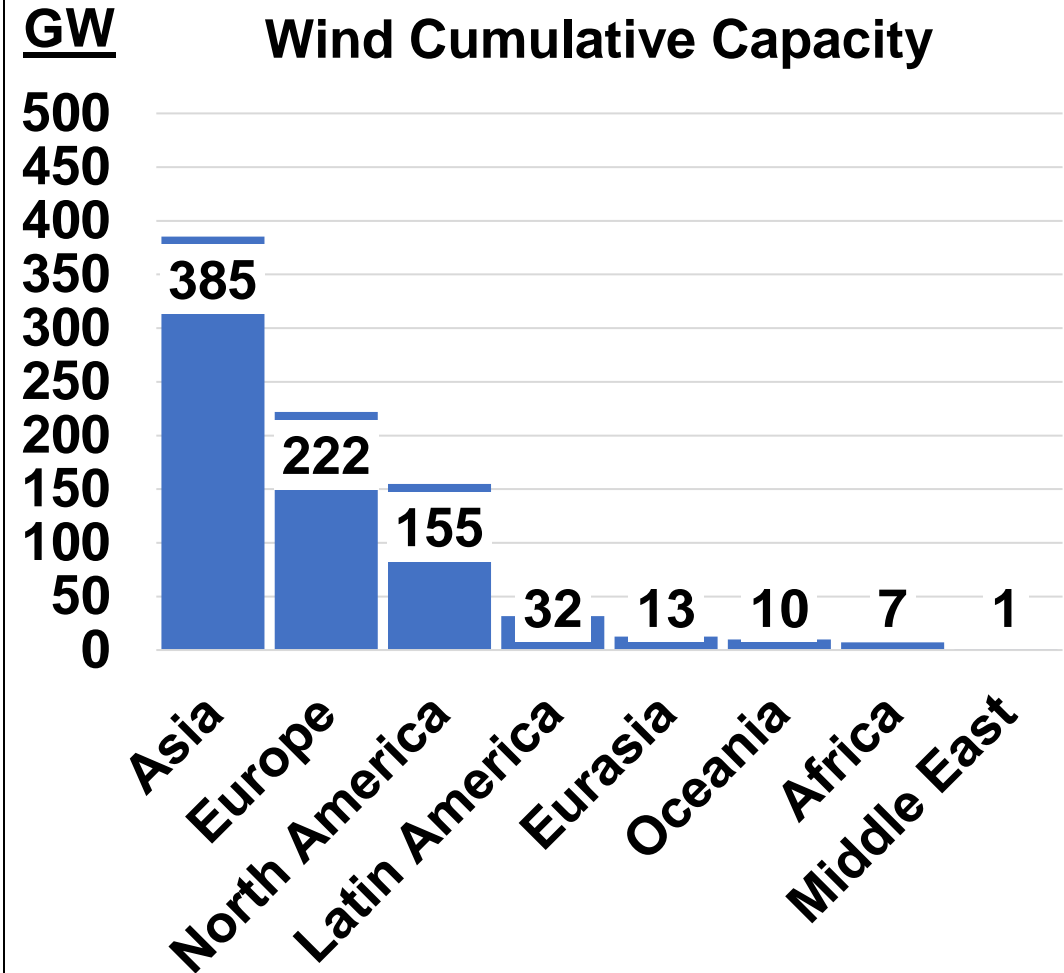
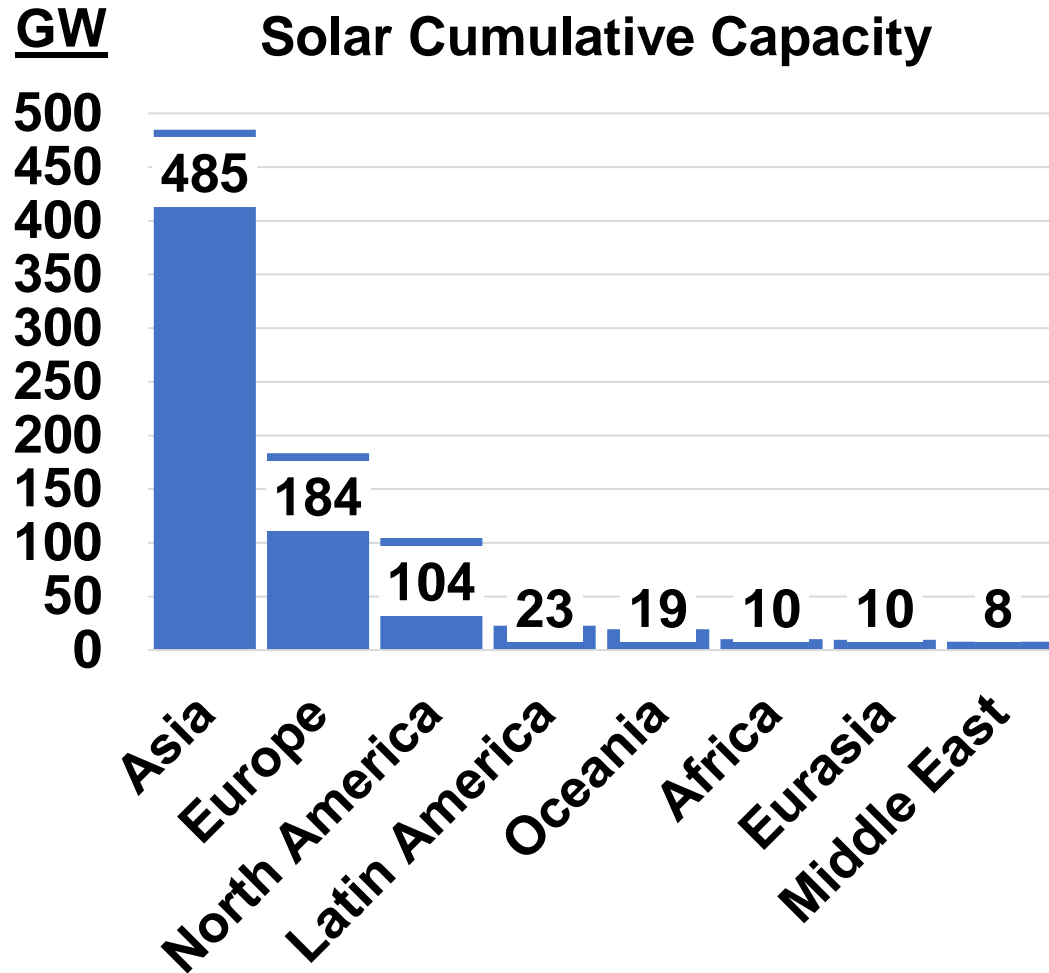


# World Solar and Wind Cumulative Capacity

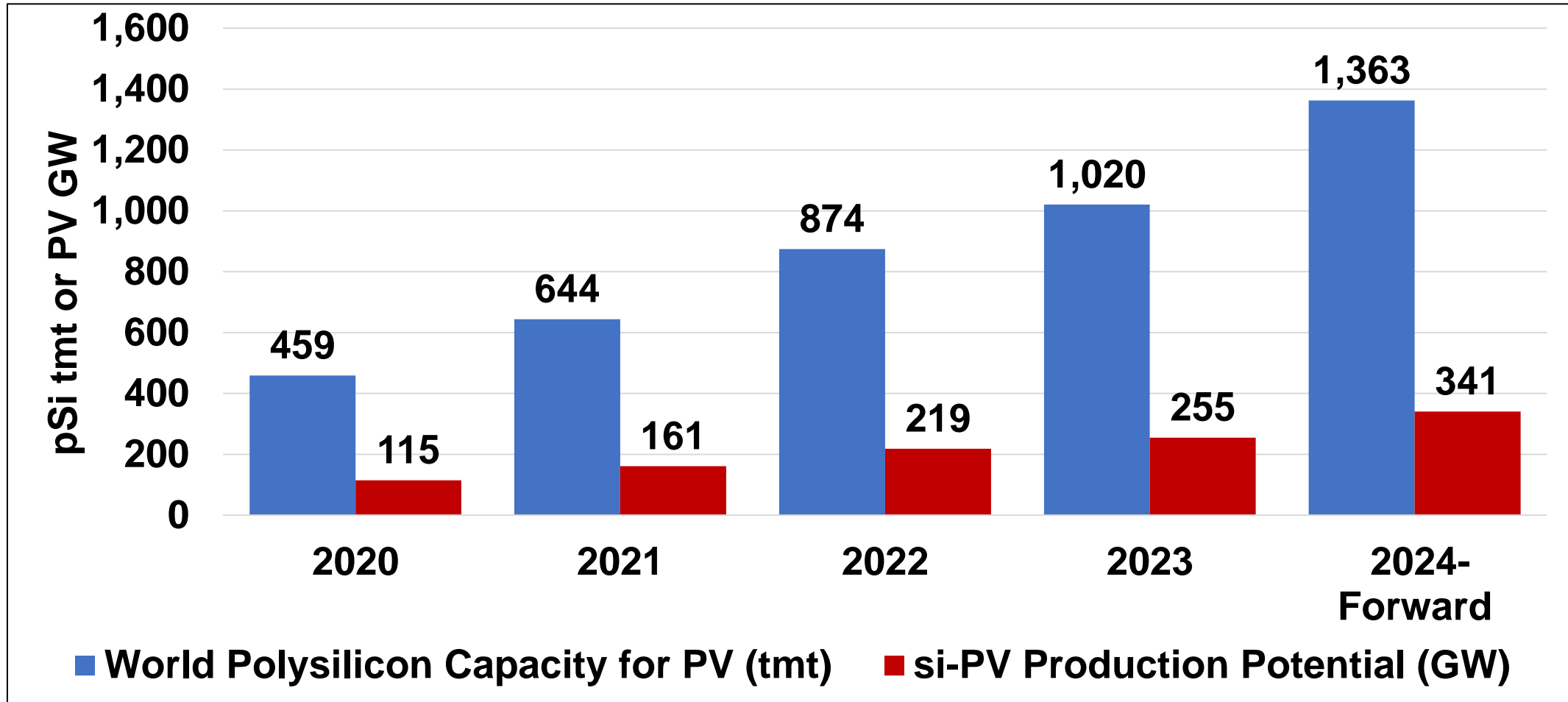
## Actual through 2021; Forecast 2022-2025



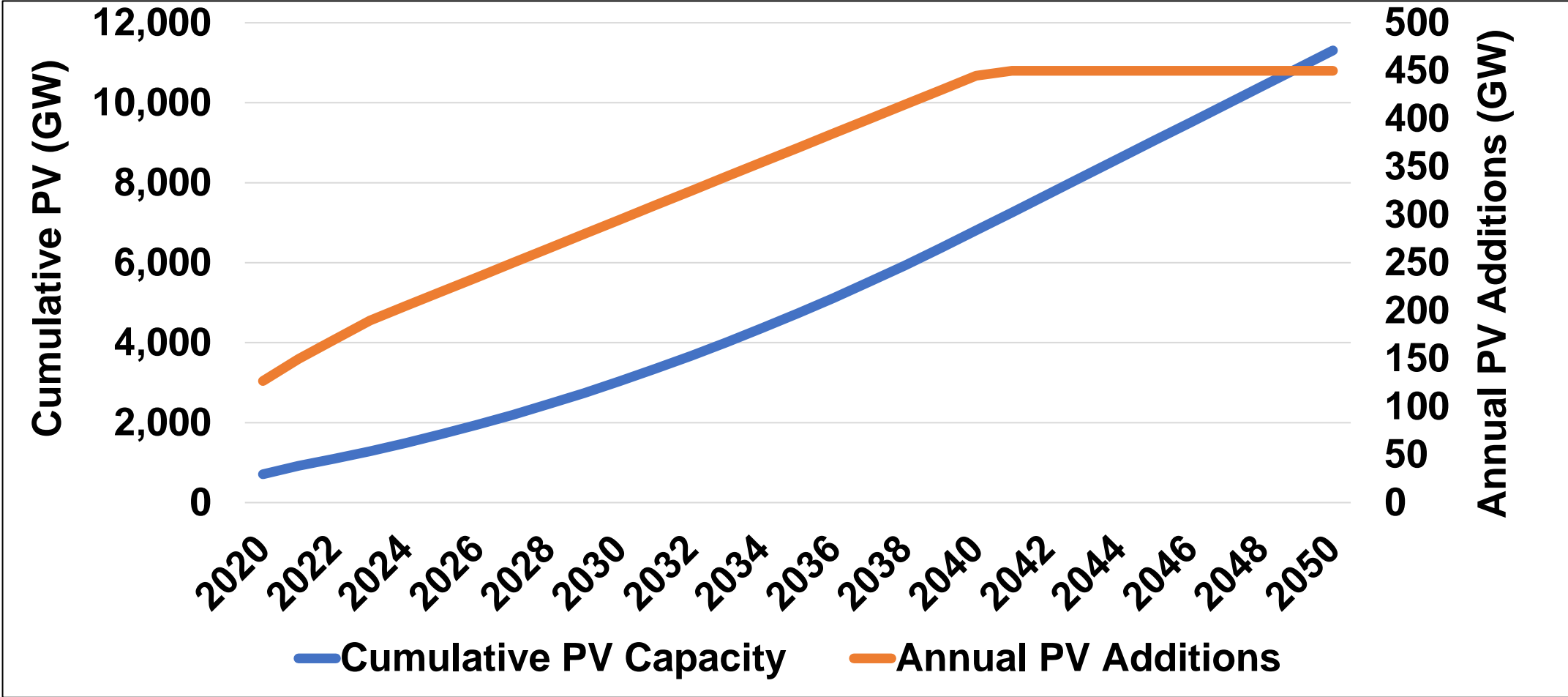
# 2021 World Regional Solar and Wind Cumulative Capacity



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

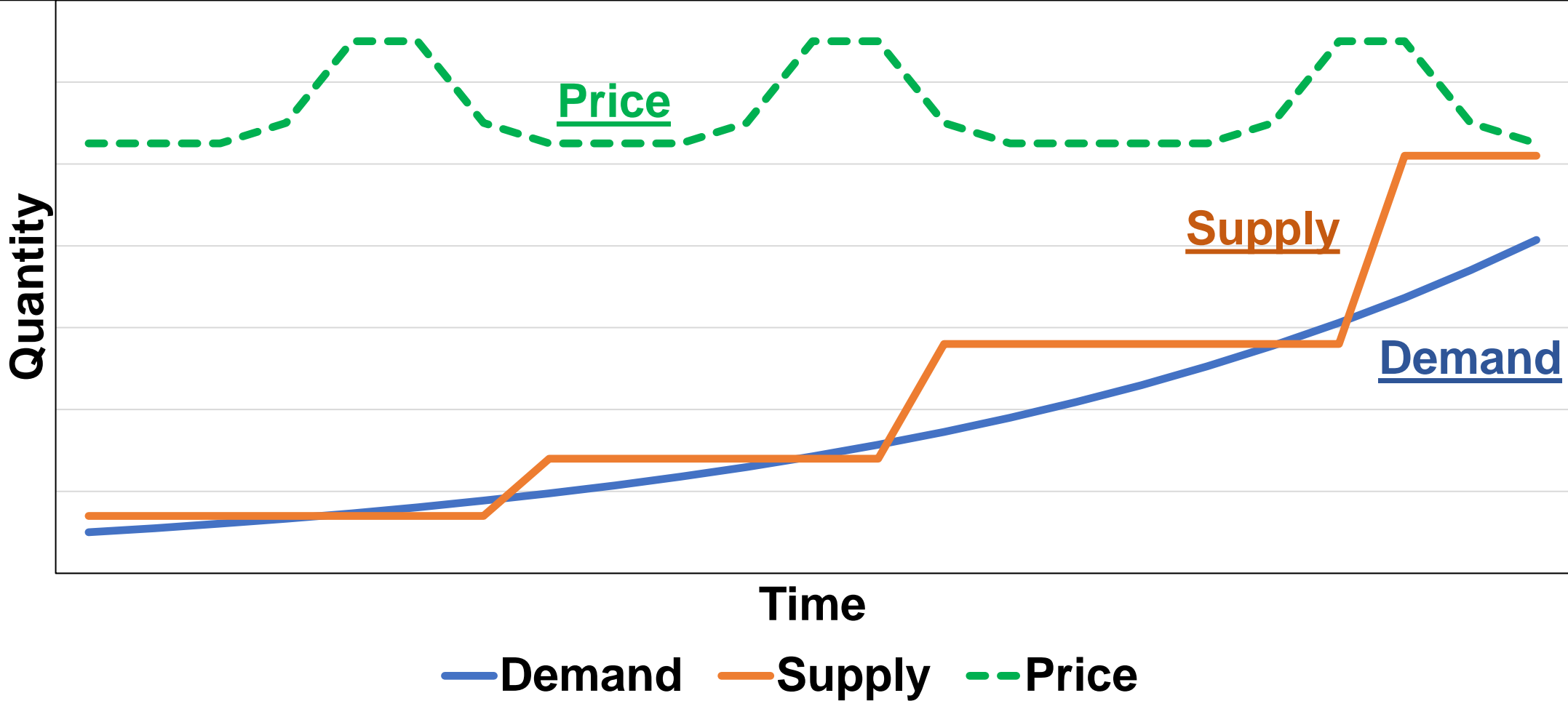


# ASAP's World PV Forecast through 2050





# Figure 1. Silicon Supply, Demand and Price Cycles

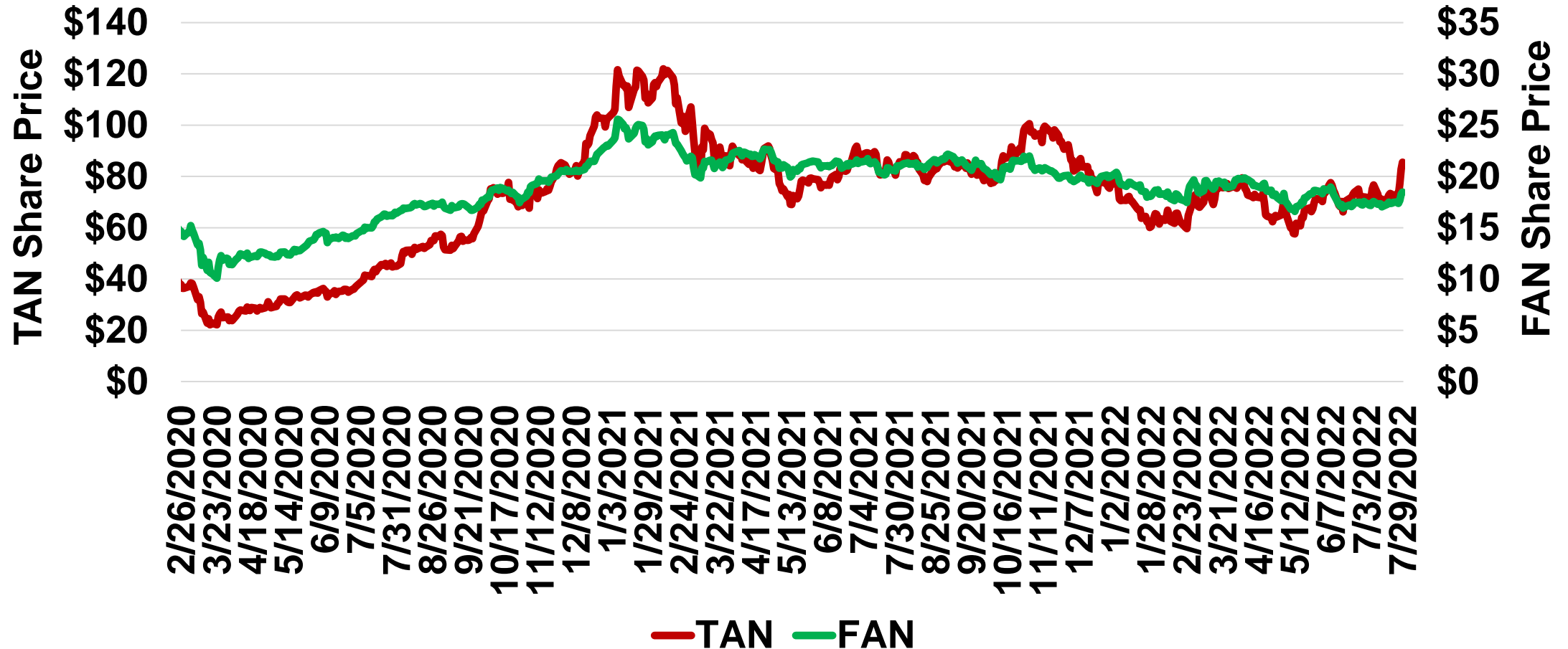




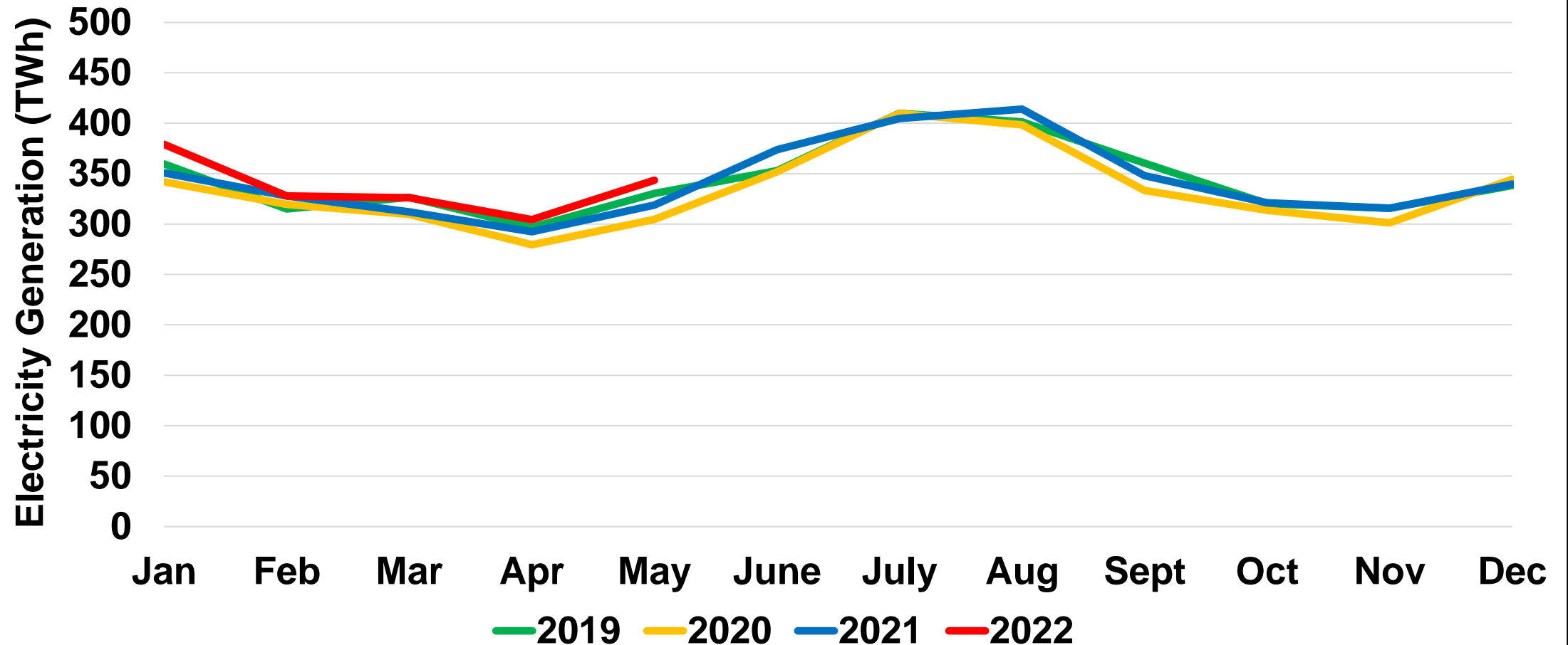
# U.S. Electricity Market Overview

**TAN and FAN Stock Prices**  
**Monthly Electricity Supply and Demand**  
**Electricity and Energy CO<sub>2</sub> Emissions**

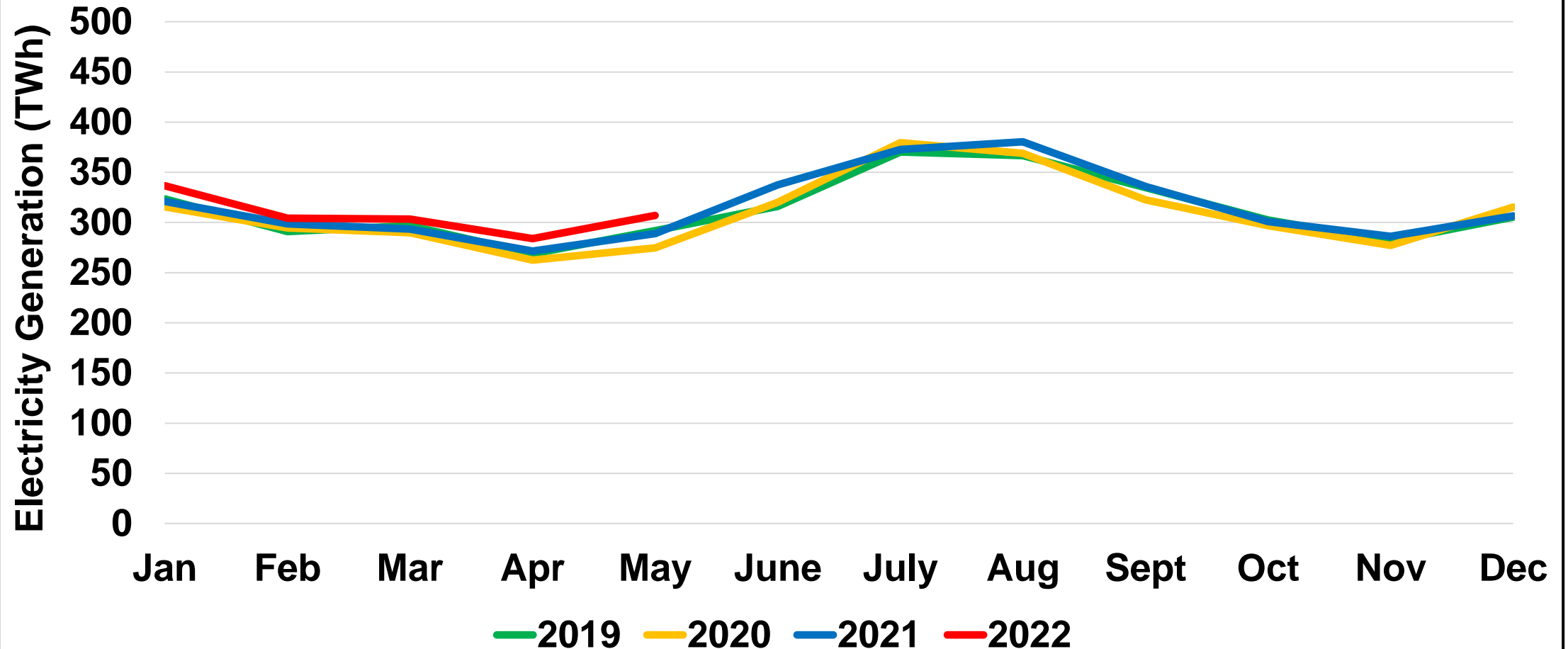
# TAN (Solar) and FAN (Wind) ETF Share Prices (Adjusted Close Prices through July 29, 2022)



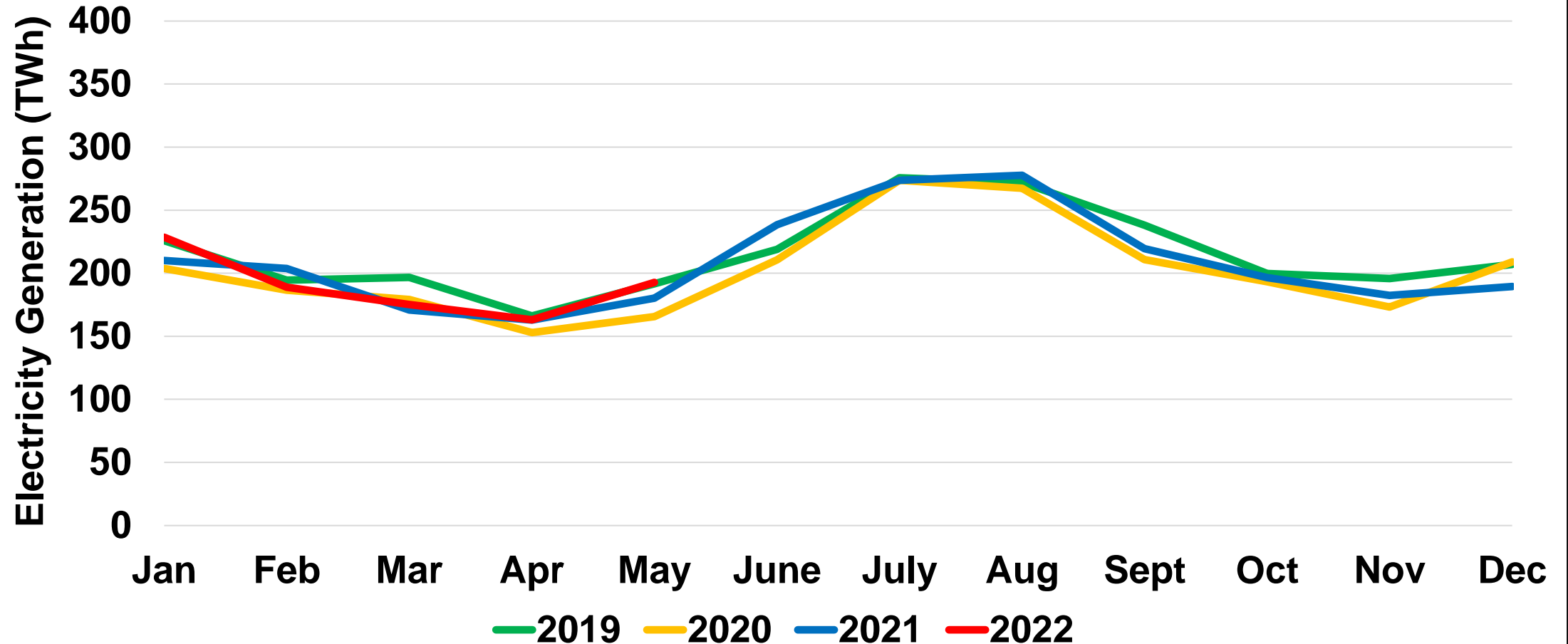
# U.S. Total Electricity Generation Year-on-Year (through May 2022)



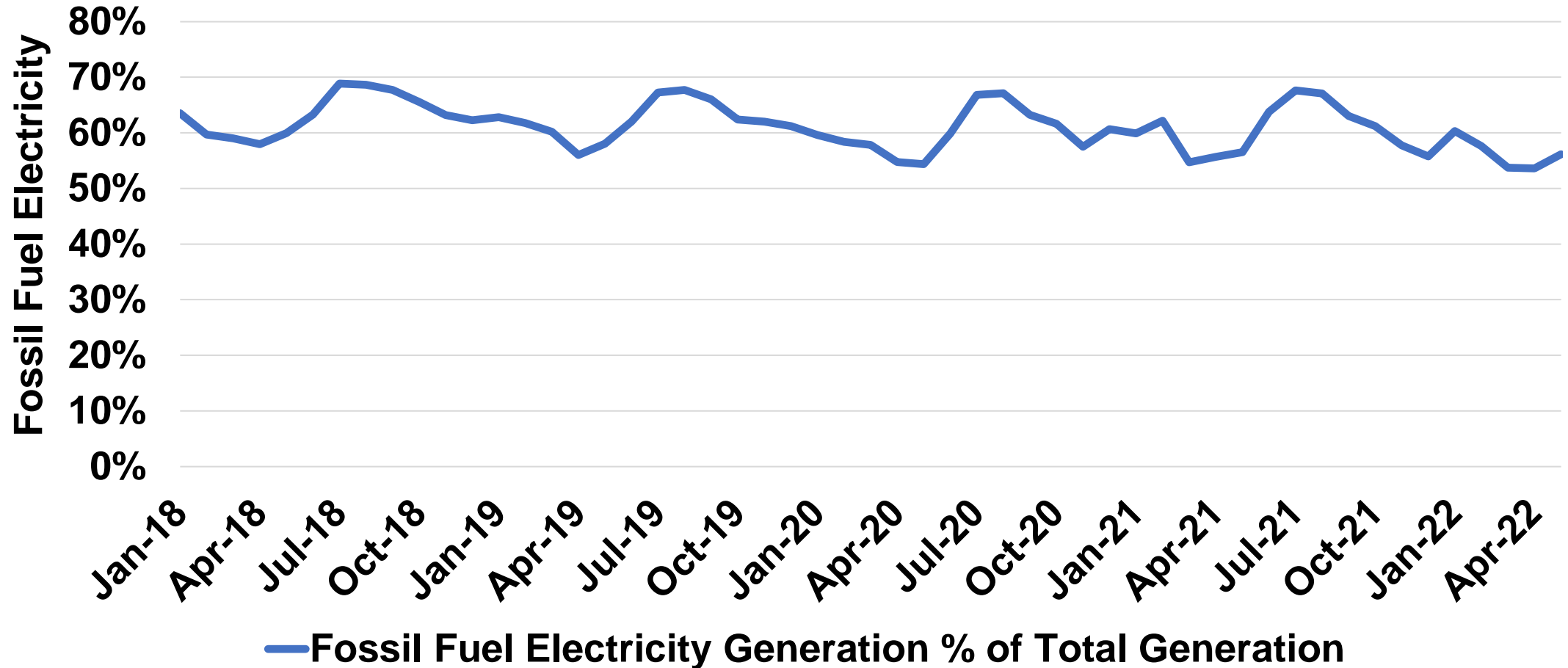
# U.S. Total Electricity Demand (Retail Sales) Year-on-Year (through May 2022)



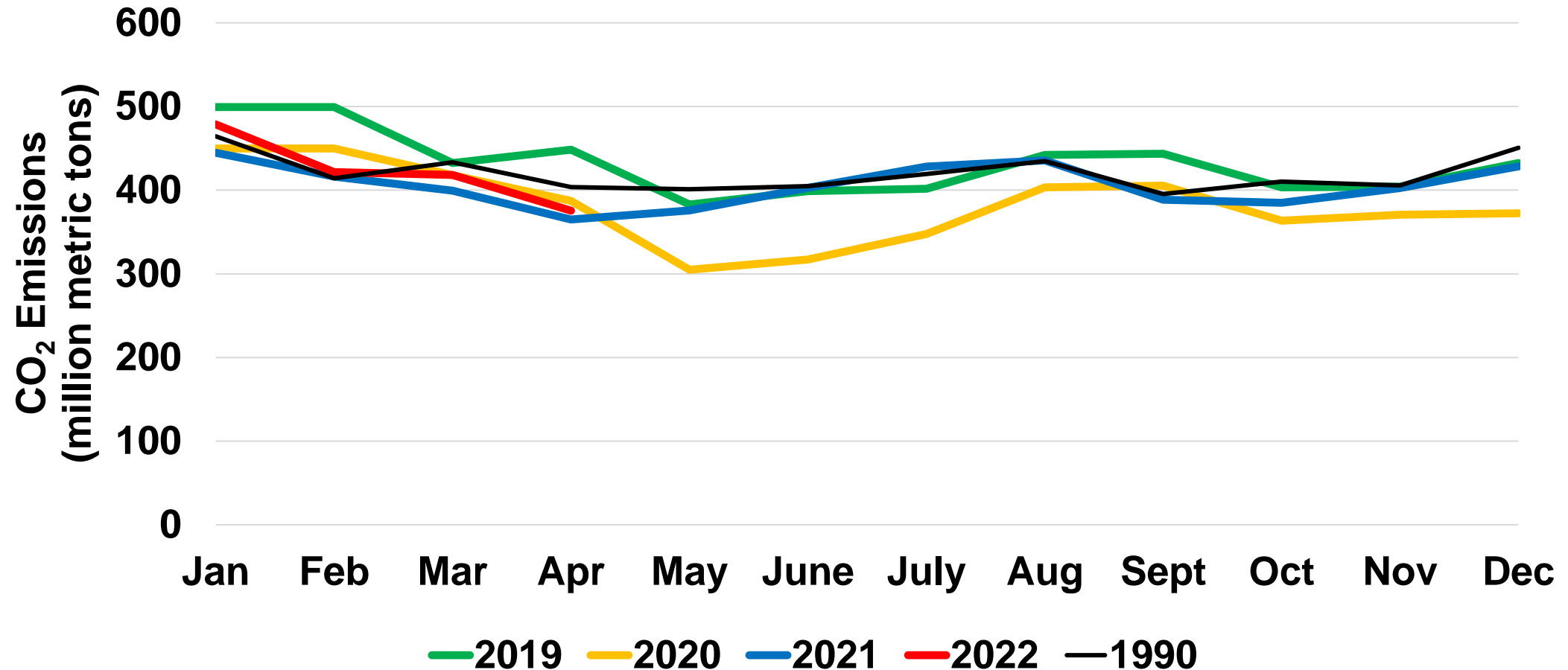
# U.S. Fossil Fuel Electricity Generation Year-on-Year (through May 2022)



# U.S. Fossil Fuel Electricity Generation % of Generation through May 2022

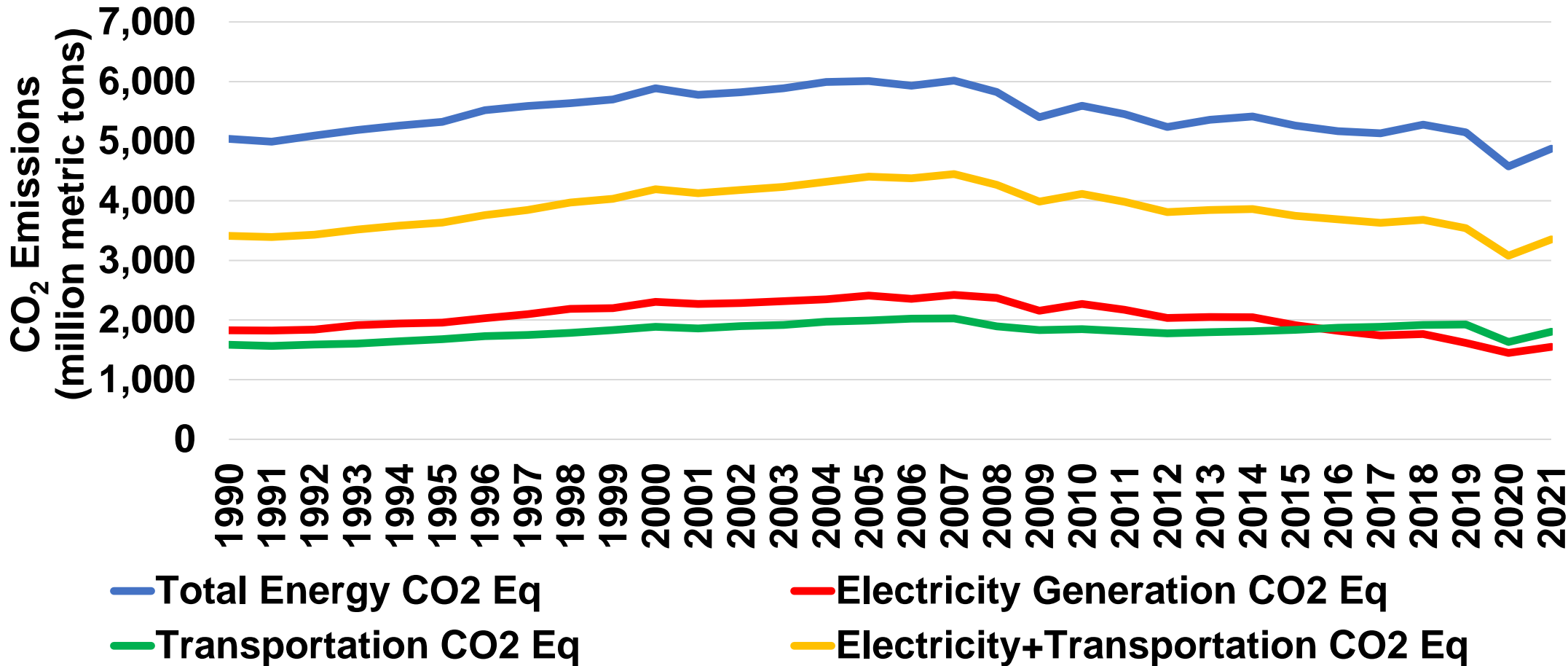


# U.S. Monthly Energy Use CO<sub>2</sub> Equivalent Emissions (through April 2022)

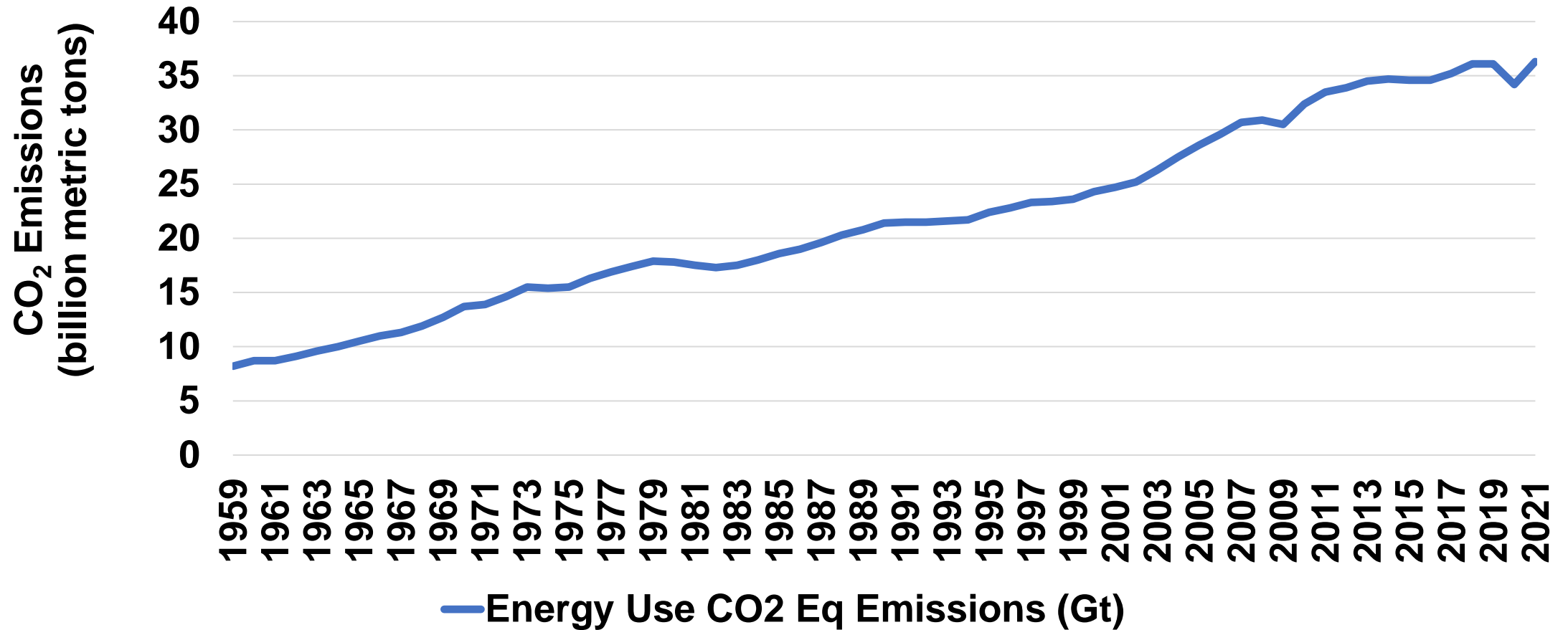




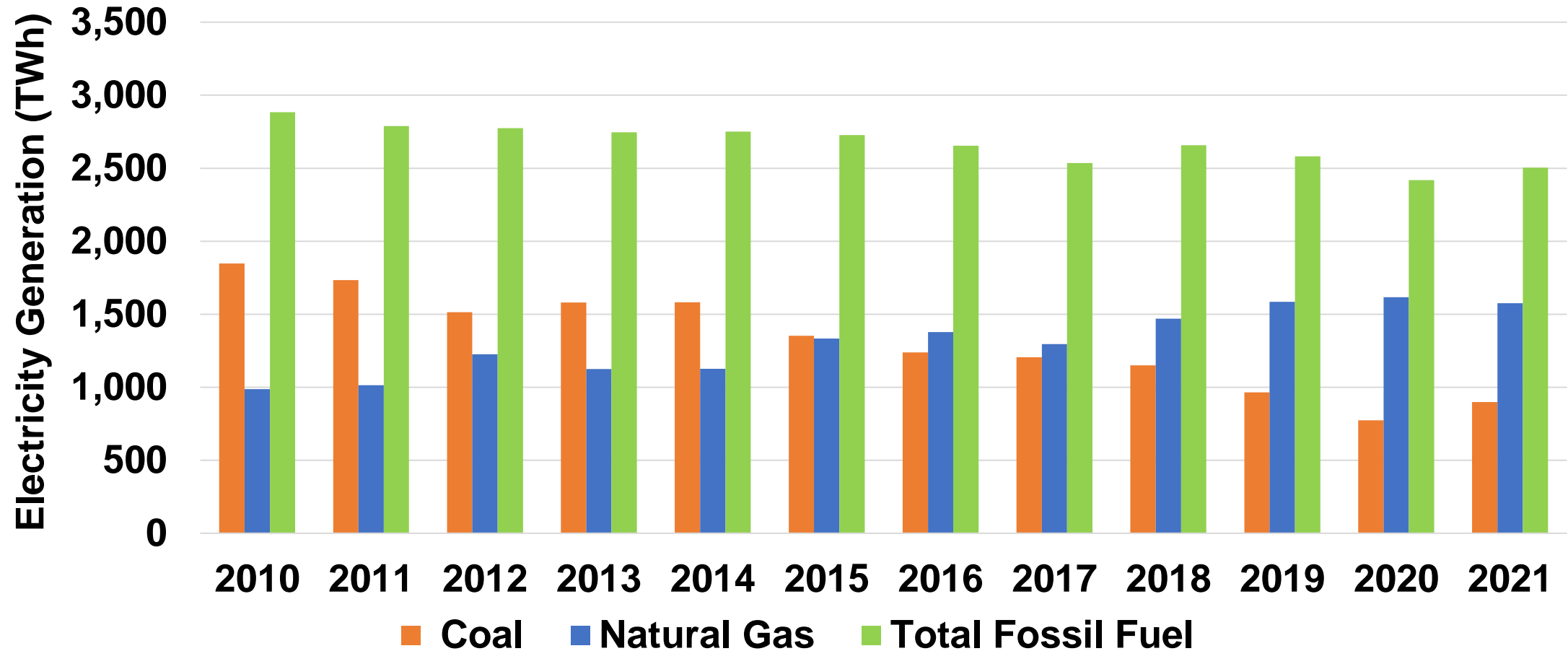
# U.S. Fossil Fuel CO<sub>2</sub> Equivalent Emissions (1990-2021)



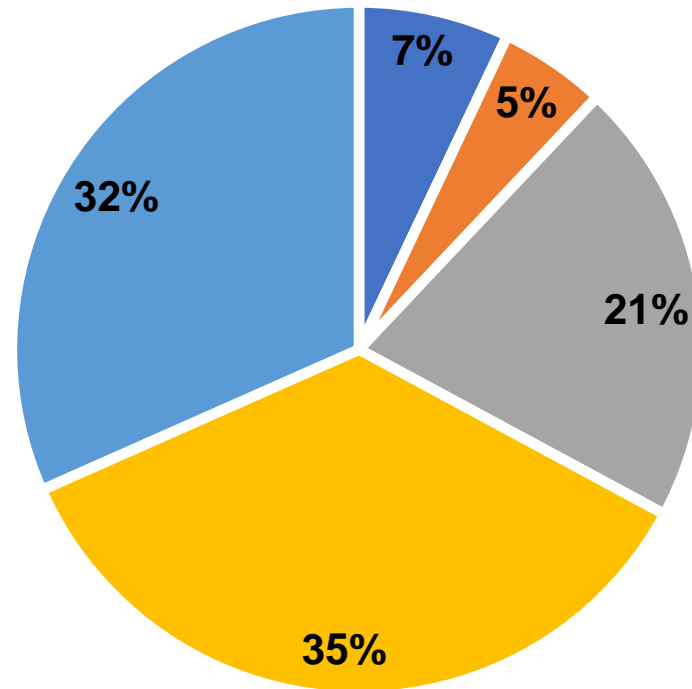
# World Energy Use CO<sub>2</sub> Equivalent Emissions (1959-2021)



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



# U.S. Energy CO<sub>2</sub> Emissions by Sector (2020)



■ Residential ■ Commercial ■ Industrial ■ Transportation ■ Electric Power

# ASAP Regional Map

