



**ASAP**  
**(American Solar Action Plan)**

**PV-Wind Monthly Slideshow**

**October 2020**

**ASAP**

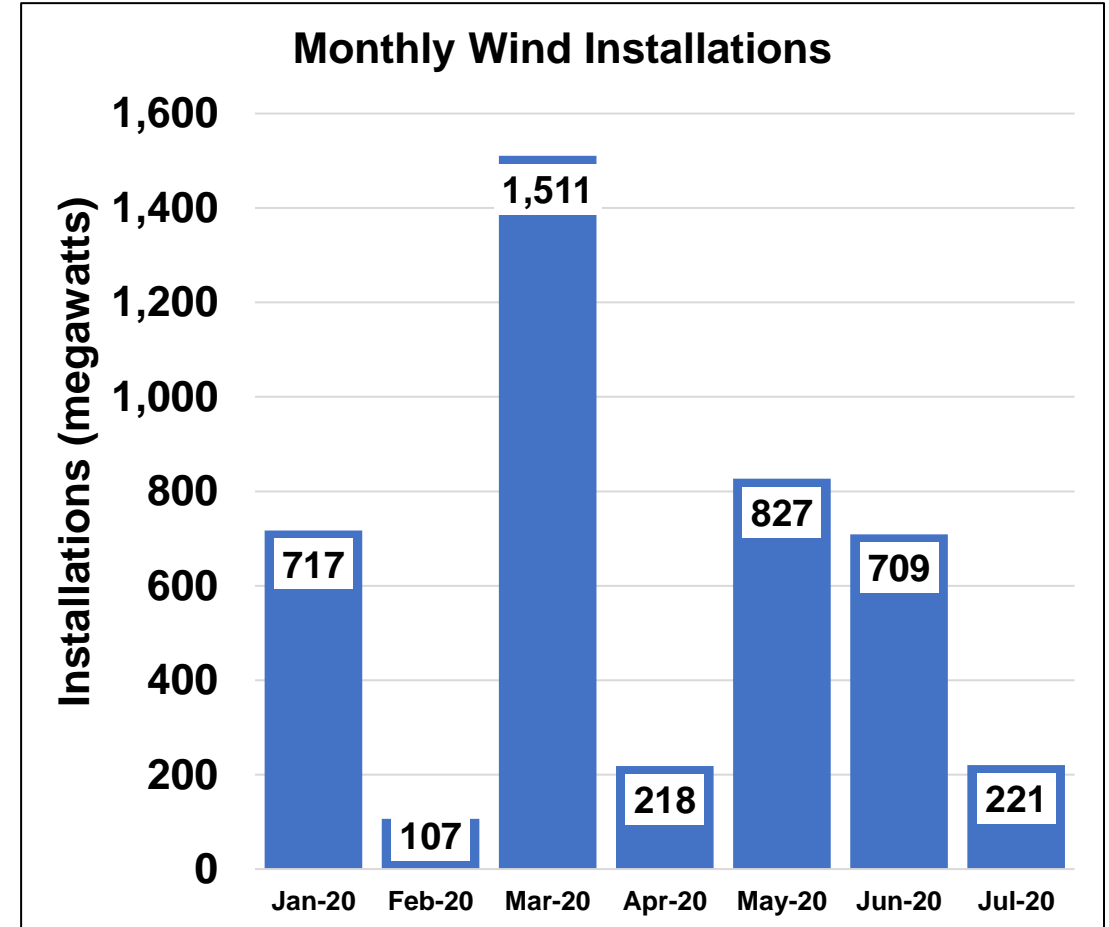
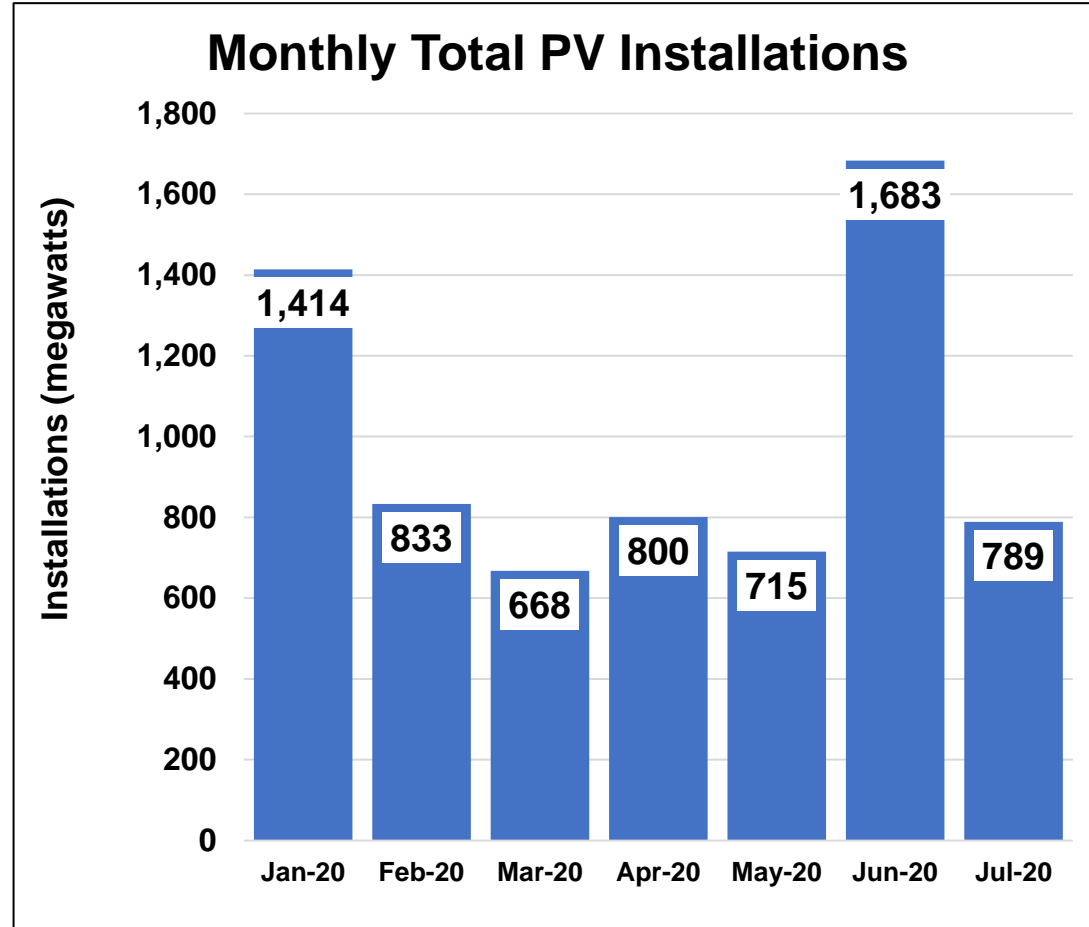
**Website: [www.solarplan.org](http://www.solarplan.org)**

**Contact: [asap@solarplan.org](mailto:asap@solarplan.org)**

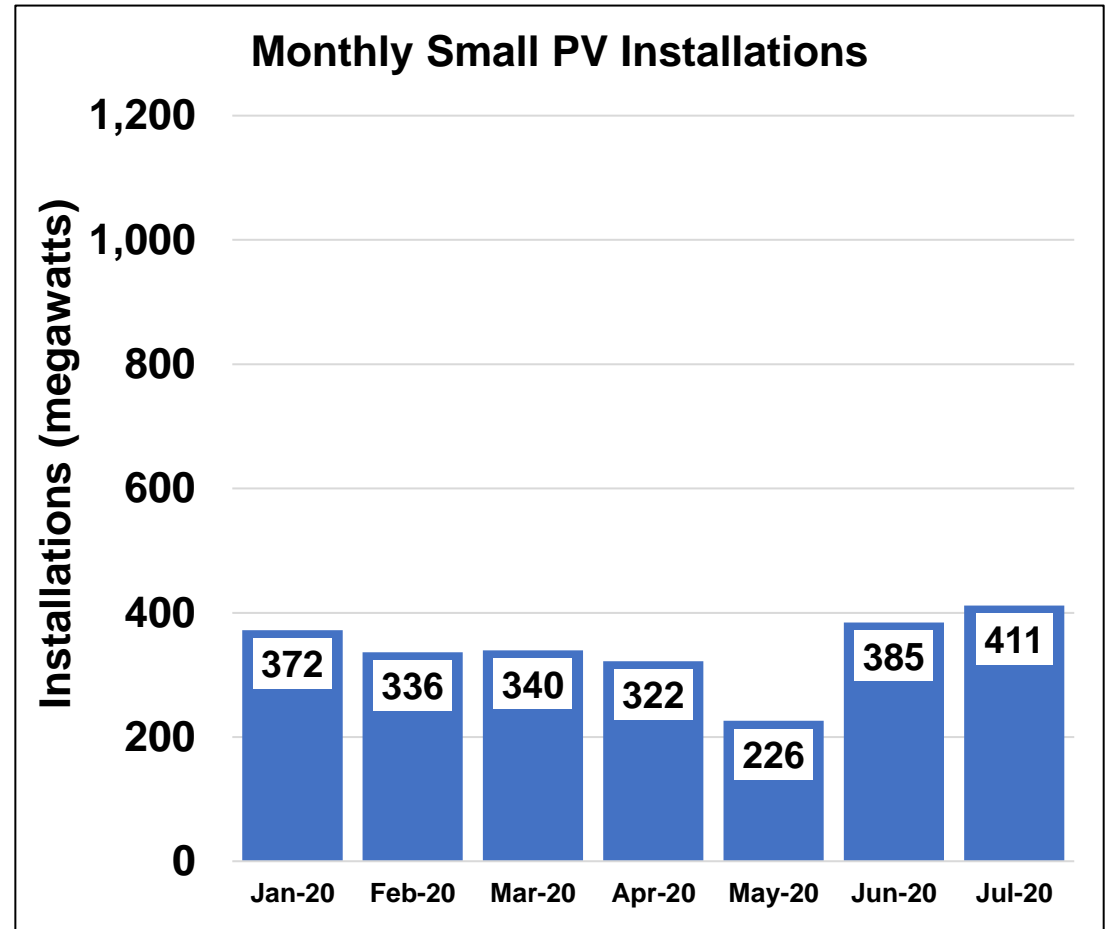
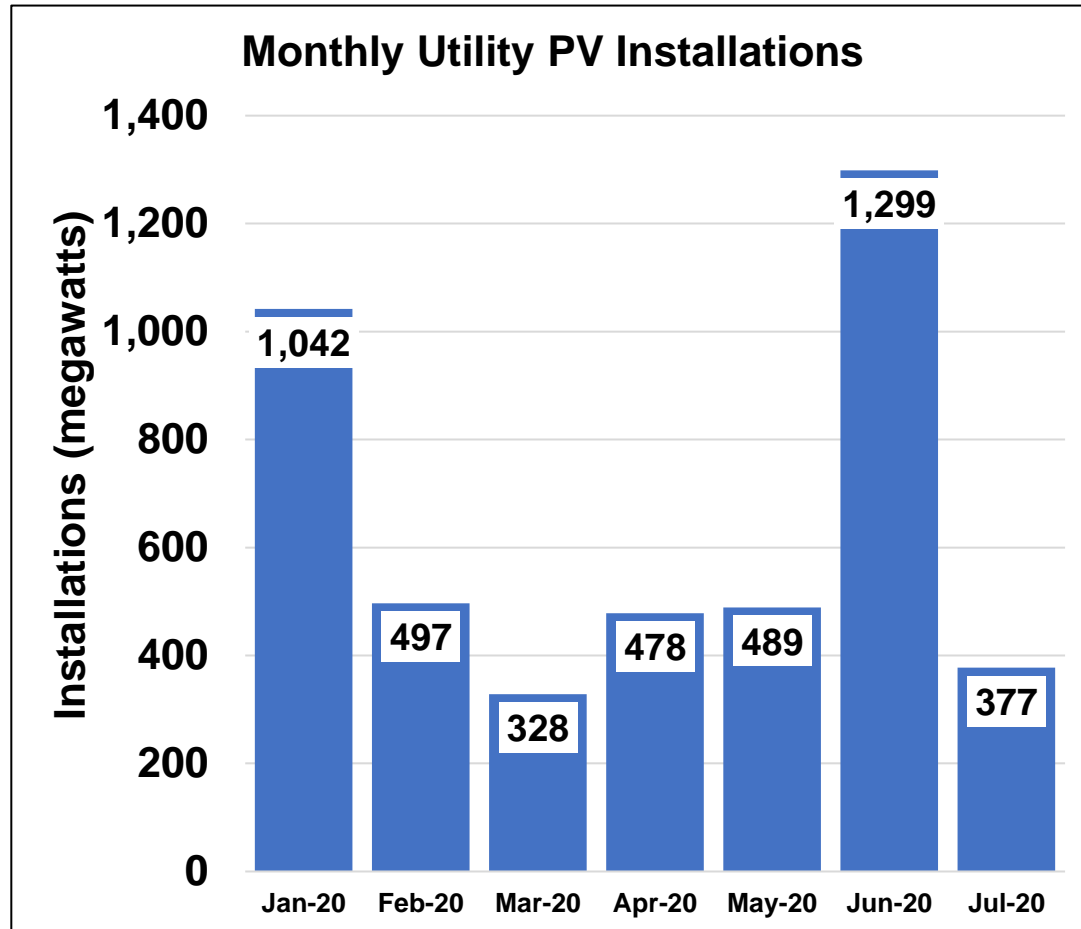


# **PV and Wind Capacity and Capacity Growth**

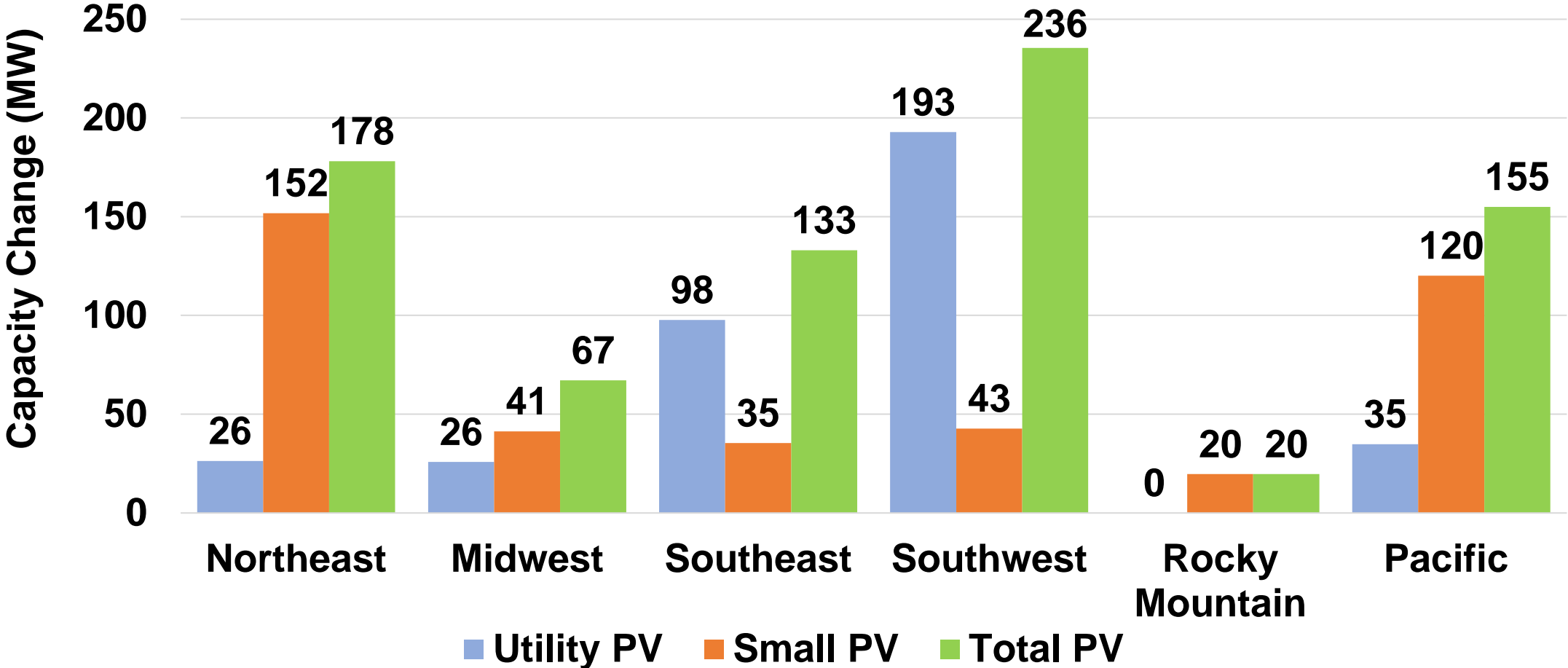
# 2020 – Net Monthly PV and Wind Installations (New Installations minus Removed from Service)



# 2020 – Net Monthly PV Installations (New Installations minus Removed from Service)

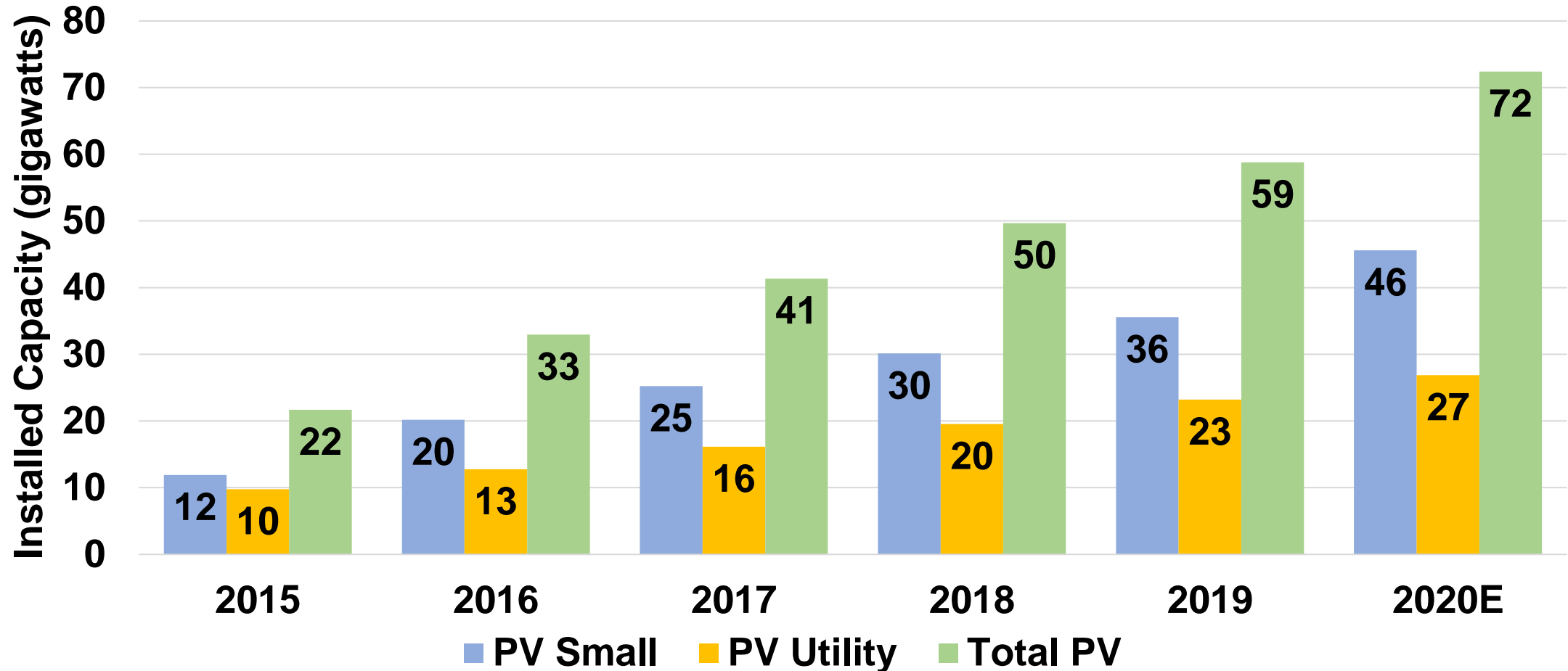


# Regional PV - Net Capacity Additions July 2020



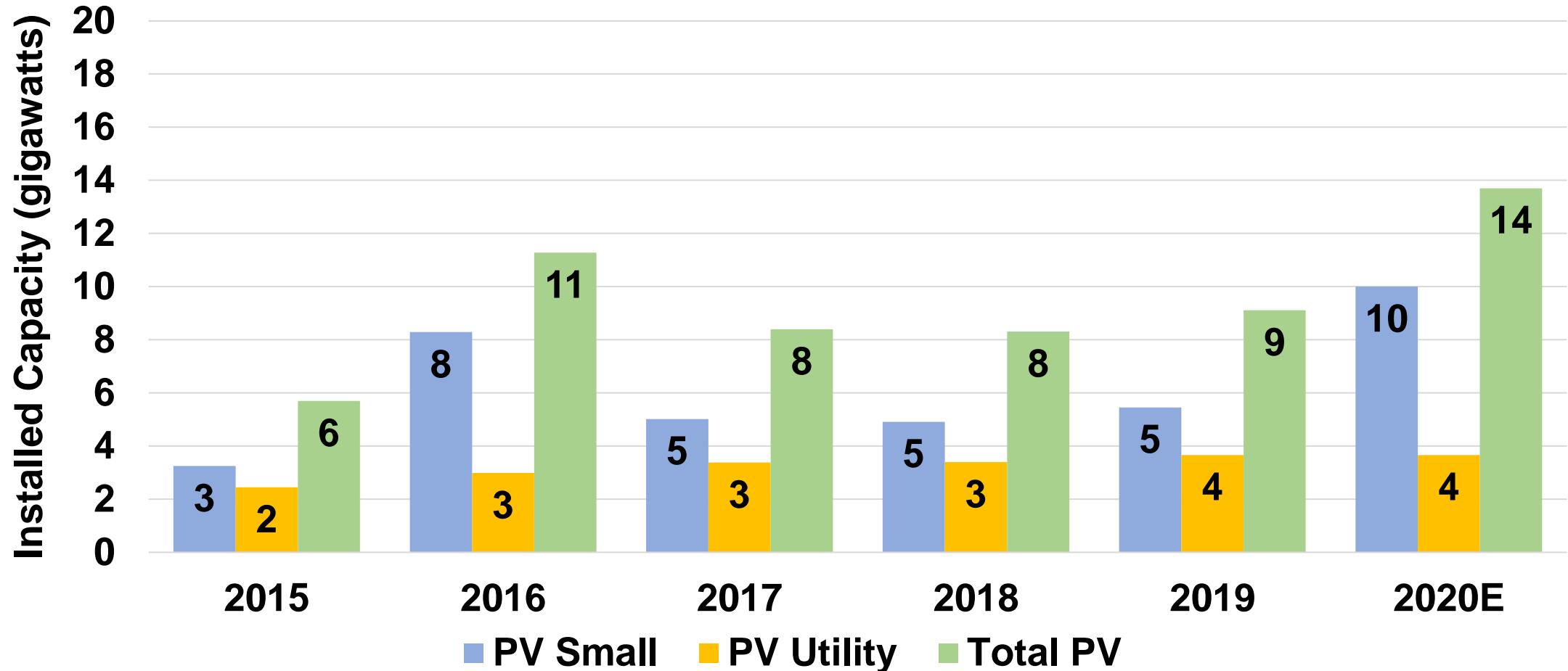
# PV Cumulative Installed Capacity – 2020 Forecast

## Small PV, Utility PV and Total PV

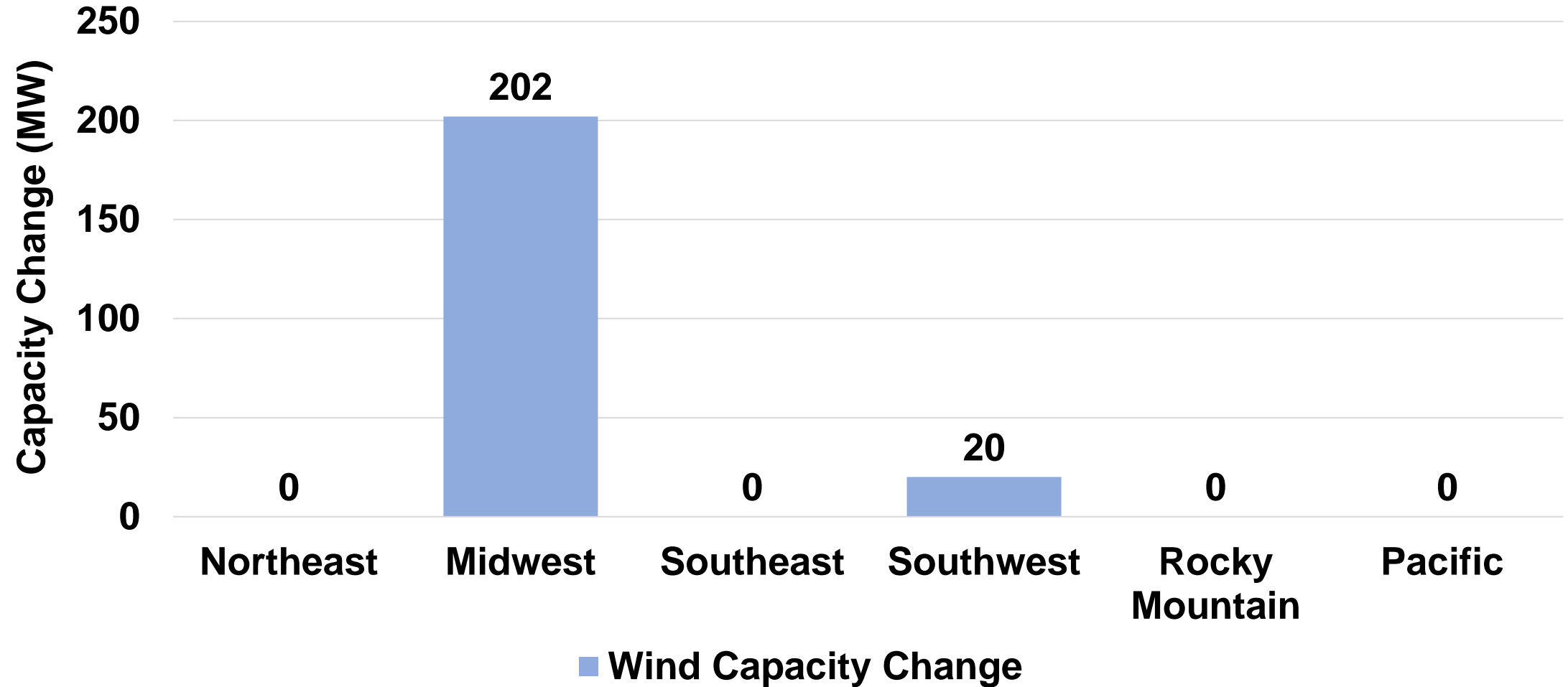


# Annual Growth – PV Installed Capacity – 2020 Forecast

## Small PV, Utility PV and Total PV

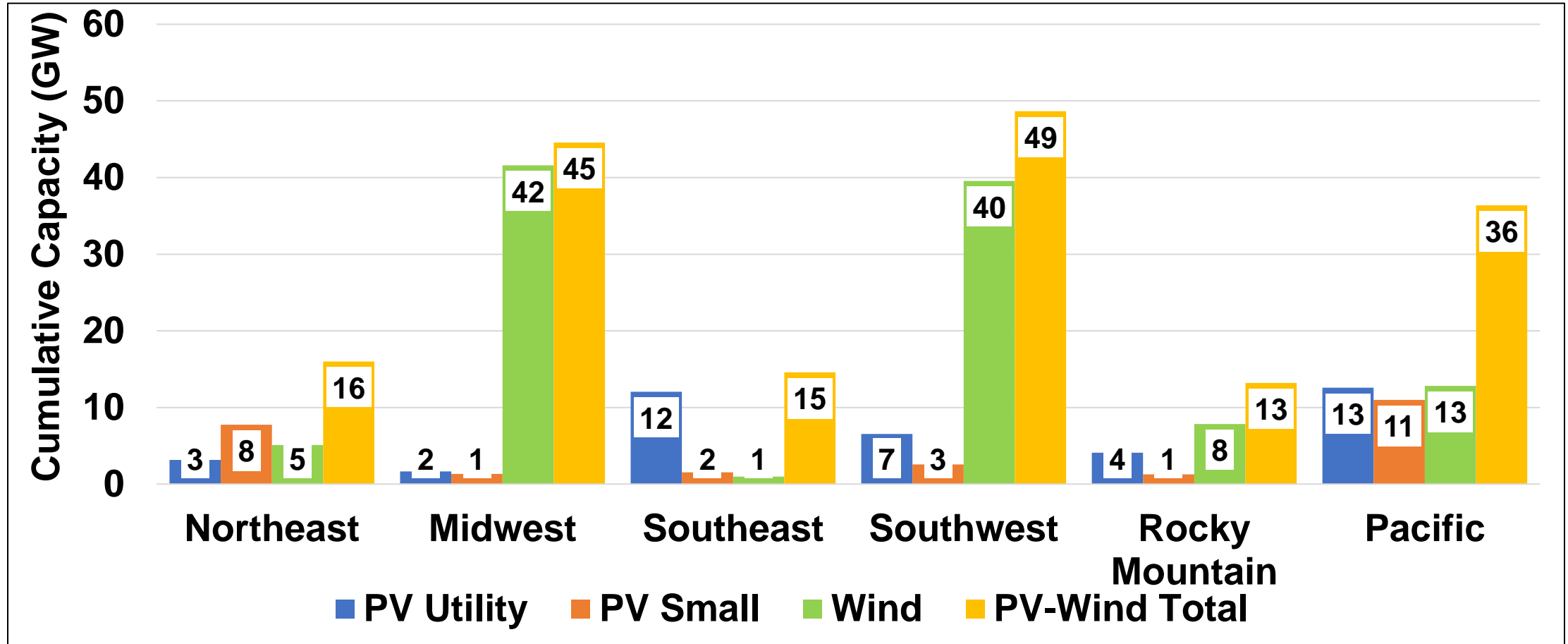


# Regional Wind – Net Capacity Additions July 2020



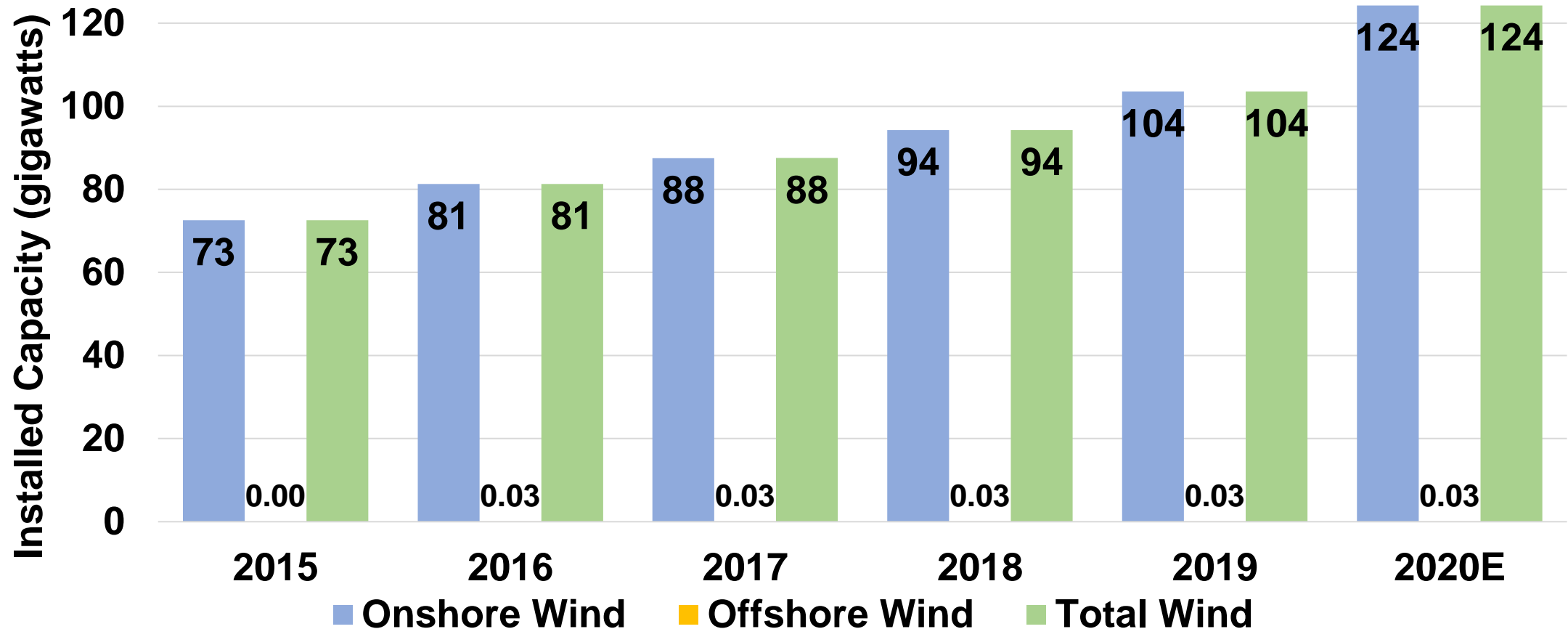


# PV and Wind Cumulative Capacity by Region Through July 2020



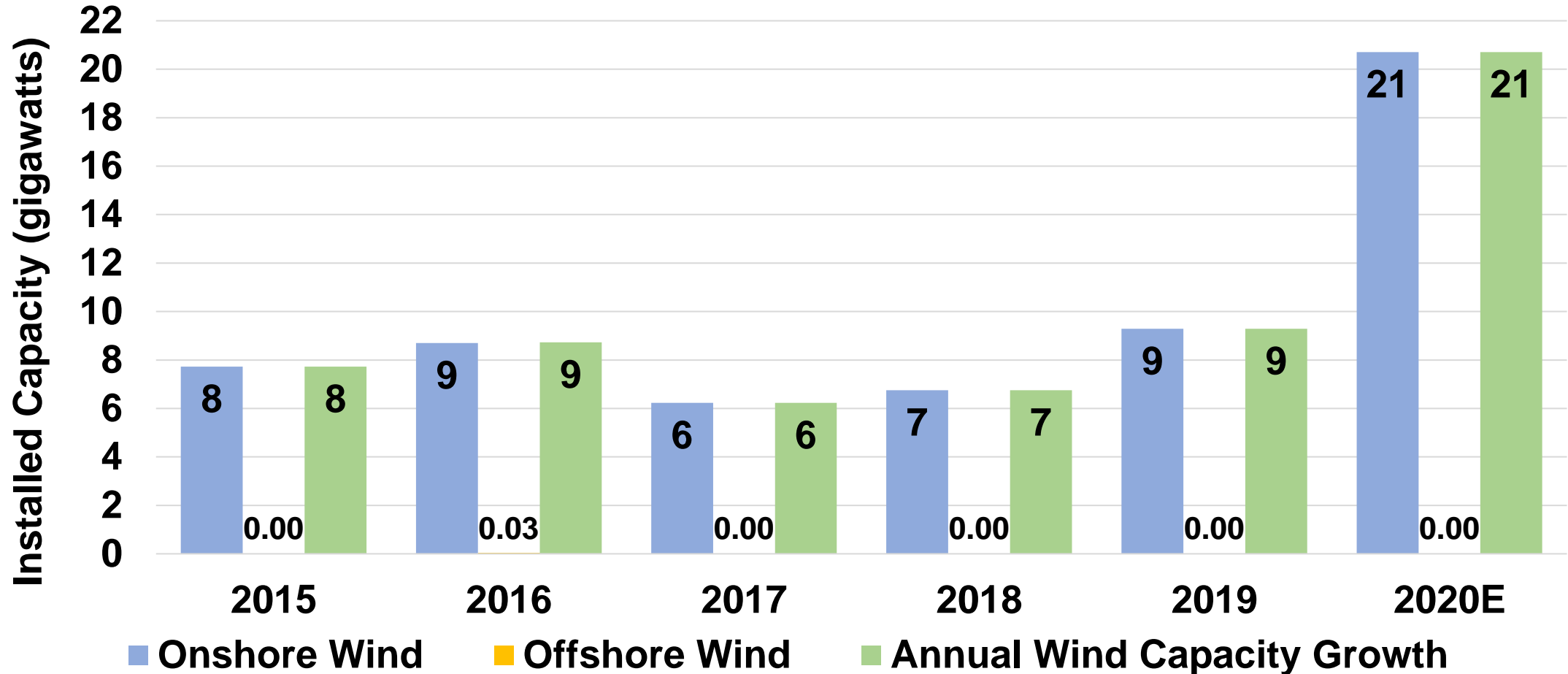
# Wind Installed Capacity – 2020 Forecast

## Wind Onshore, Wind Offshore and Total Wind



# Annual Growth – Wind Installed Capacity – 2020 Forecast

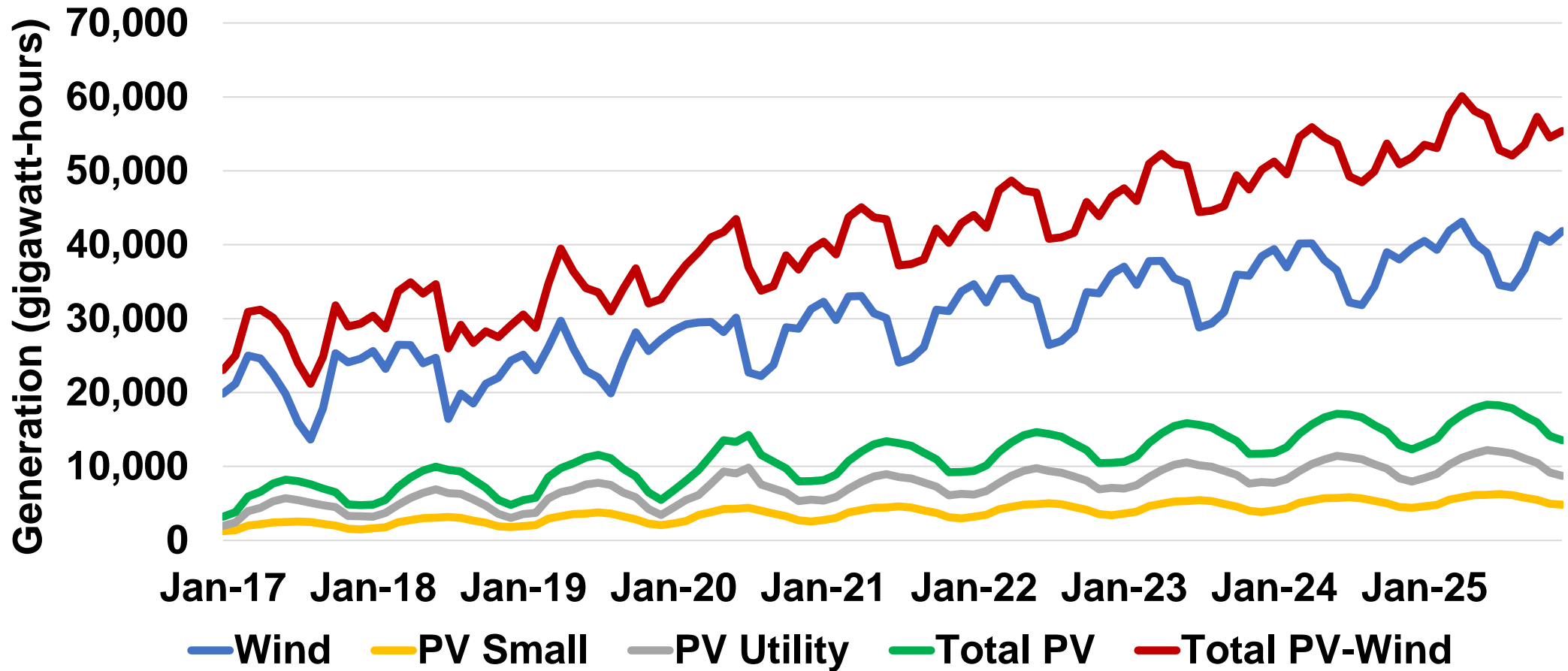
## Wind Onshore, Wind Offshore and Total Wind





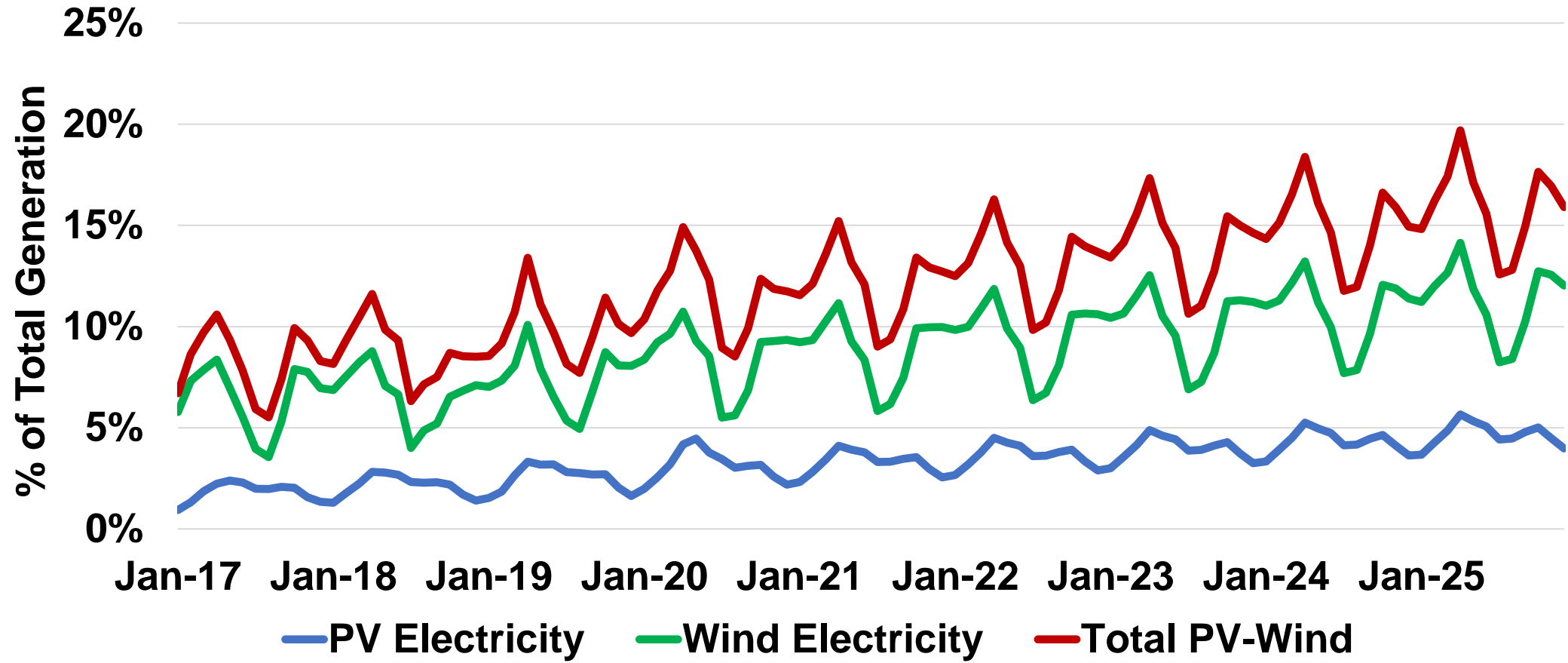
# U.S. PV and Wind Electricity Supply

# U.S. PV & Wind Electricity Generation Actual through July 2020; Forecast through Dec. 2025



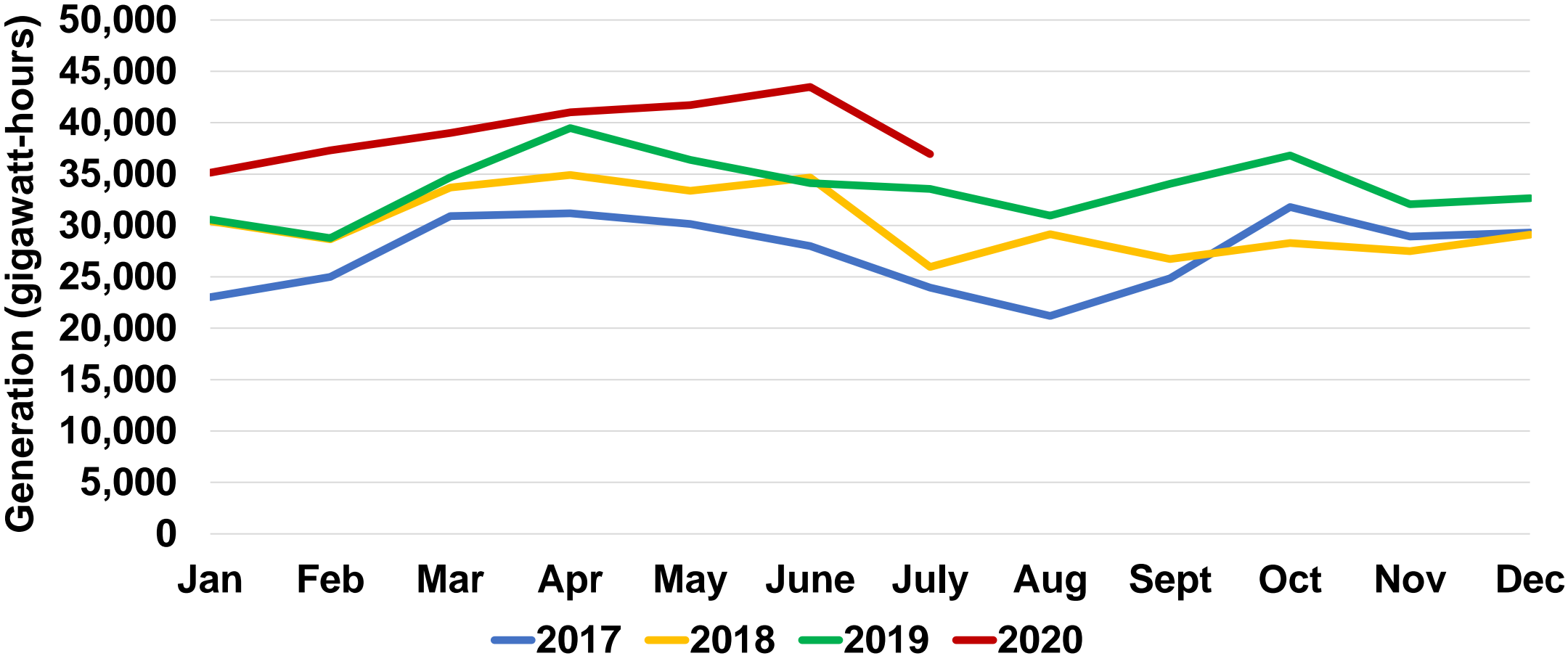
Note: PV Small is less than 1.0 MW; PV Utility is 1.0 MW and greater

# U.S. PV & Wind Electricity as % of Total Generation Actual through July 2020; Forecast through Dec. 2025

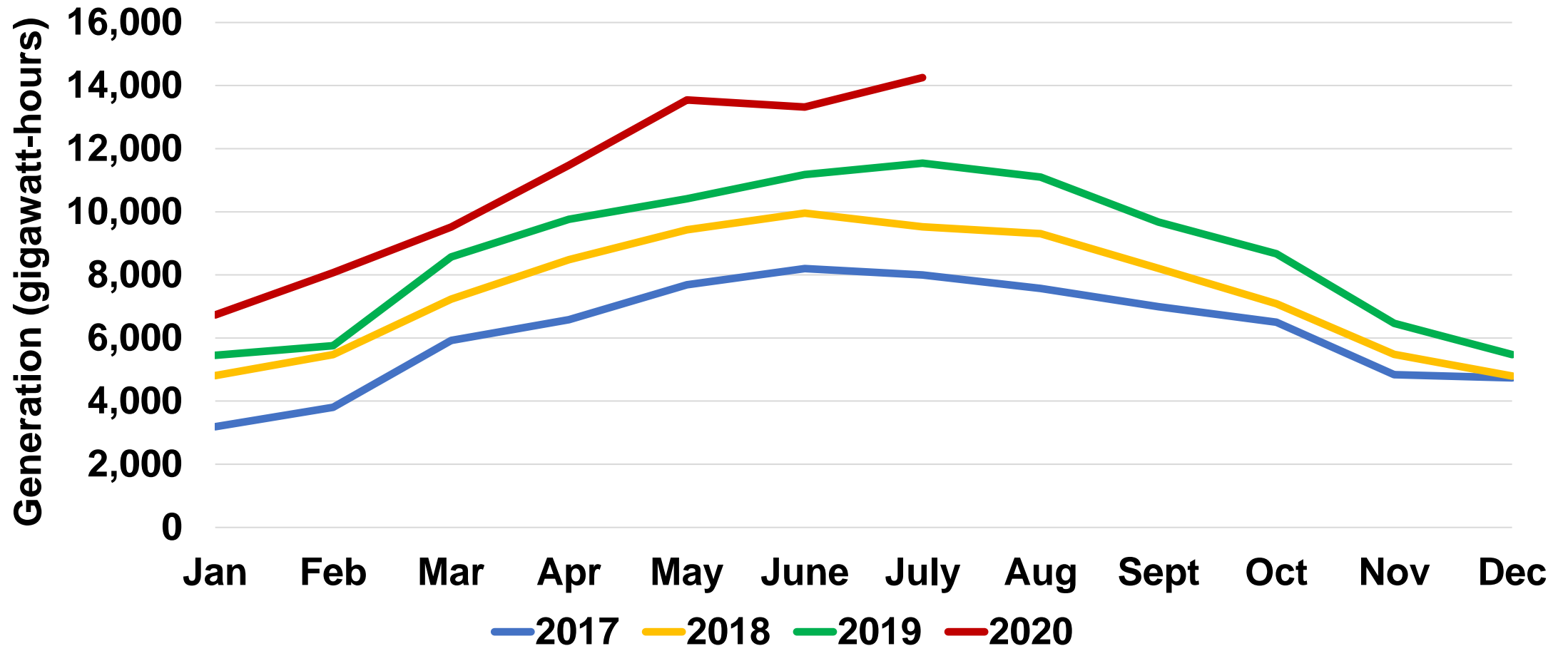


Note: Fossil fuel electricity generation was 62% of total 2019 electricity generation.

# PV & Wind Electricity Generation Year-on-Year (through July 2020)

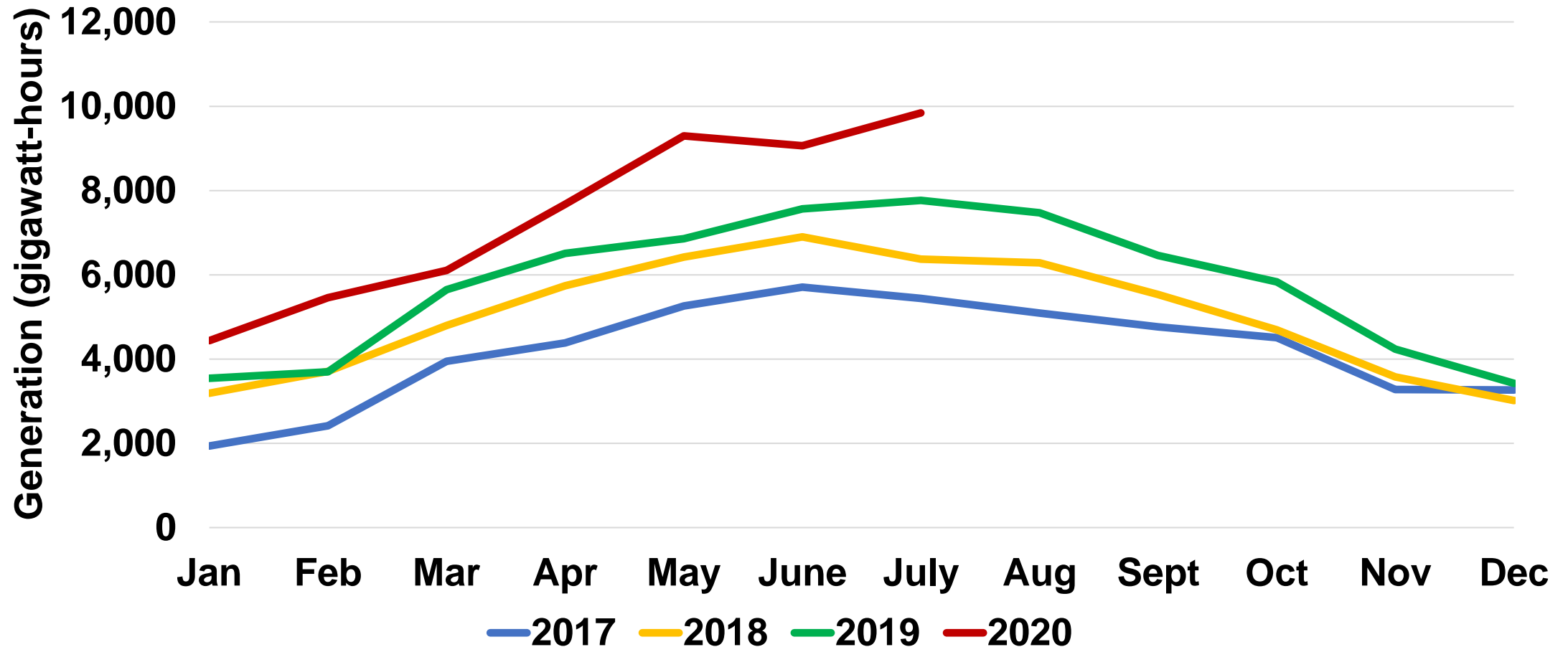


# PV Electricity Generation Year-on-Year (through July 2020)



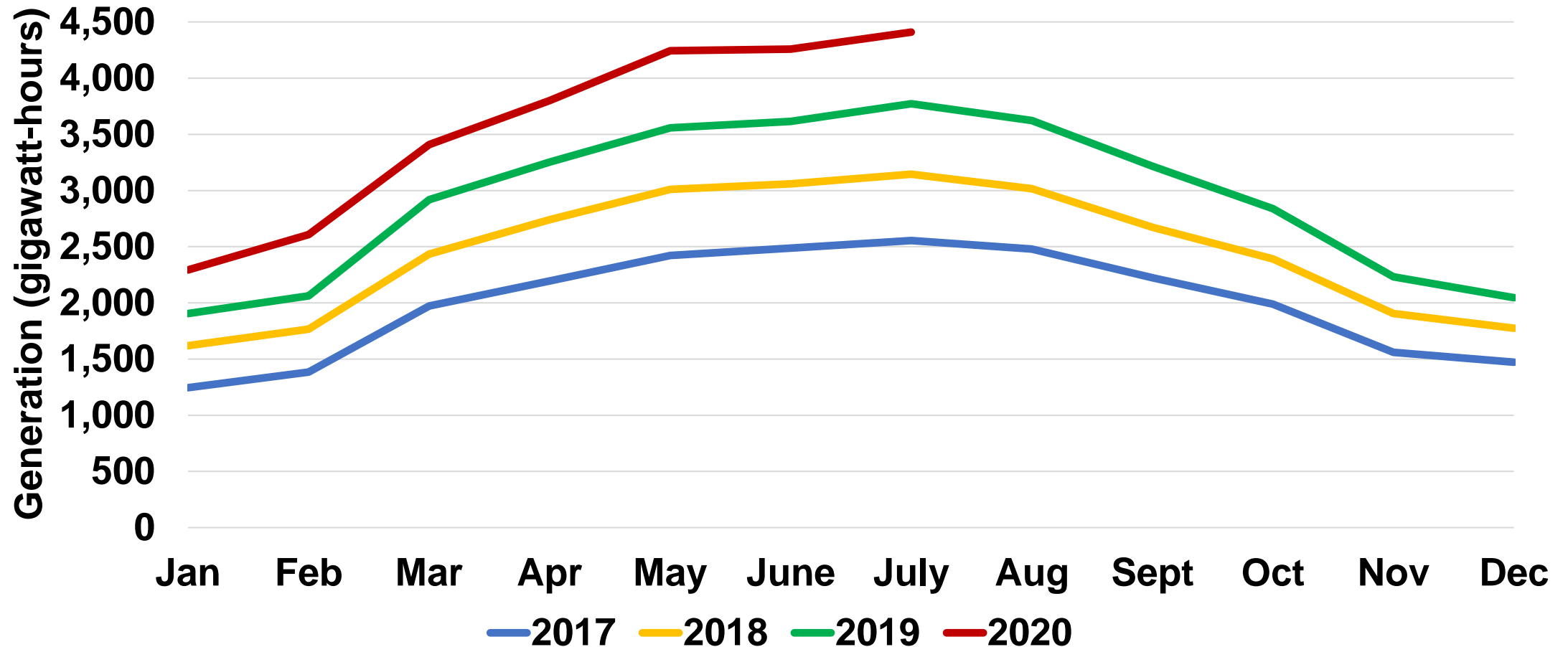


# Utility PV Electricity Generation Year-on-Year (through July 2020)



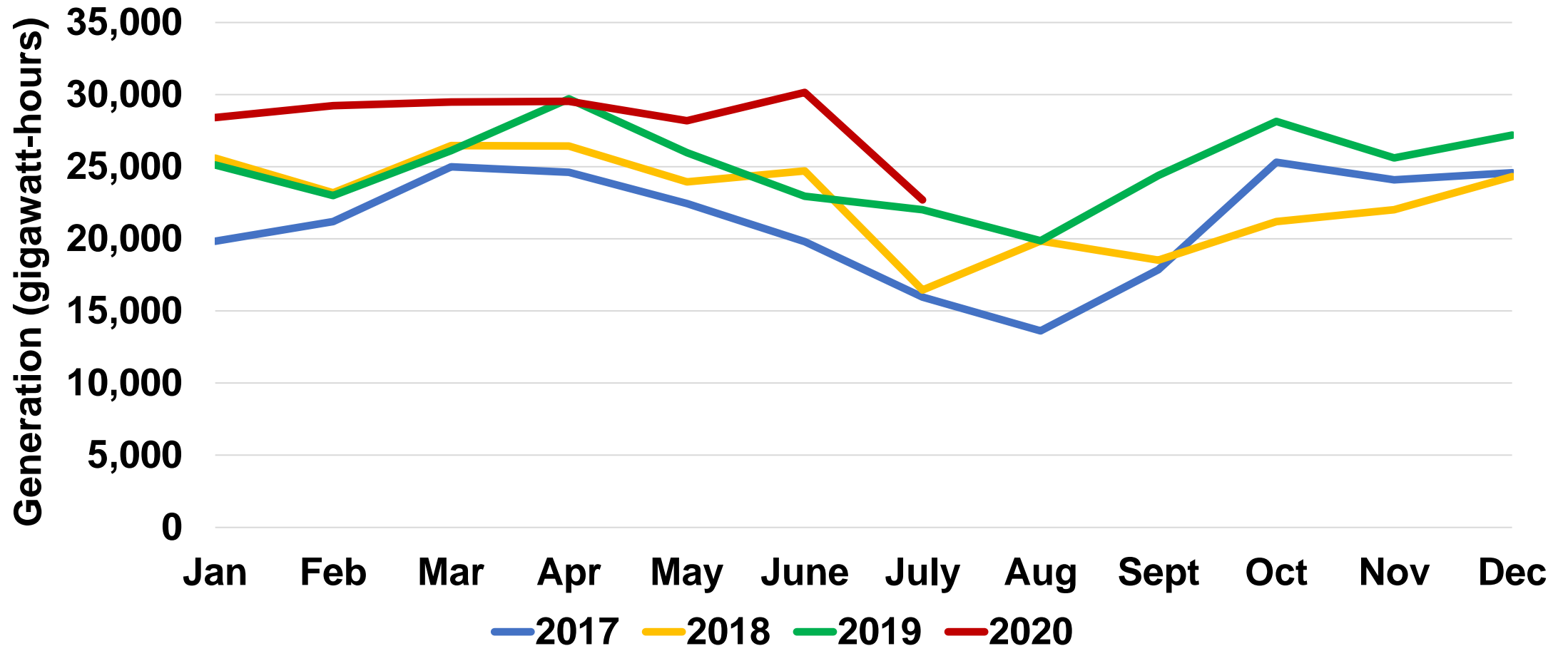
Note: PV Utility is greater than 1.0 MW

# Small PV Electricity Generation Year-on-Year (through July 2020)

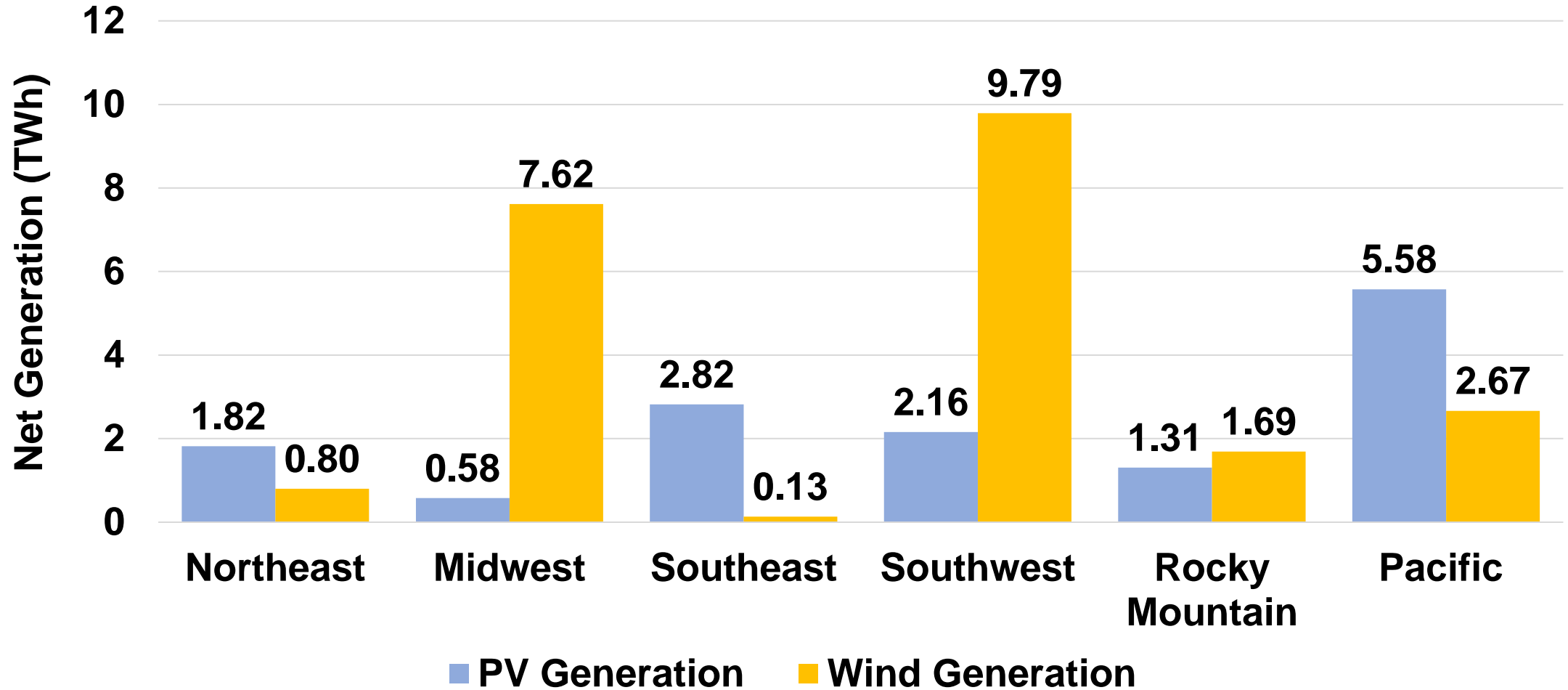


Note: PV Small is less than 1.0 MW

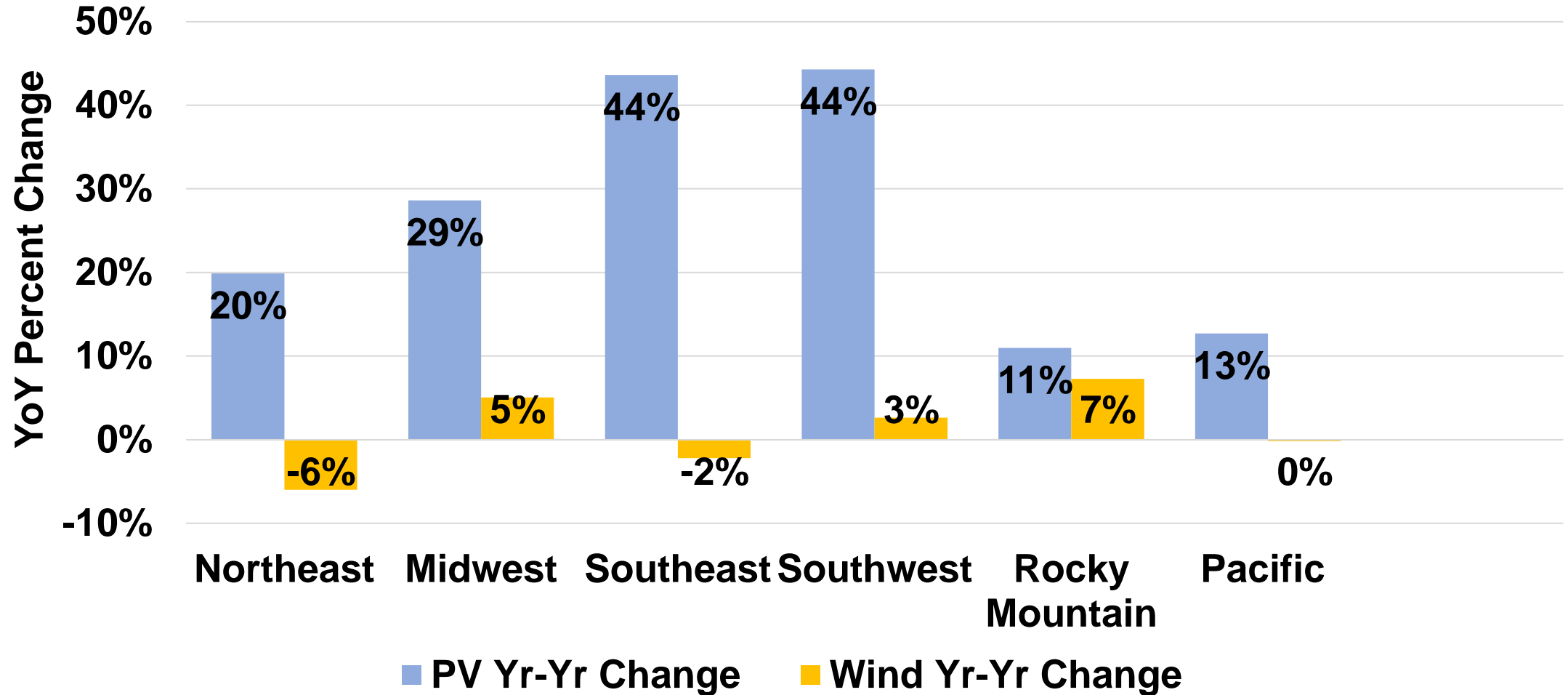
# Wind Electricity Generation Year-on-Year (through July 2020)



# Regional PV & Wind Electricity Generation July 2020



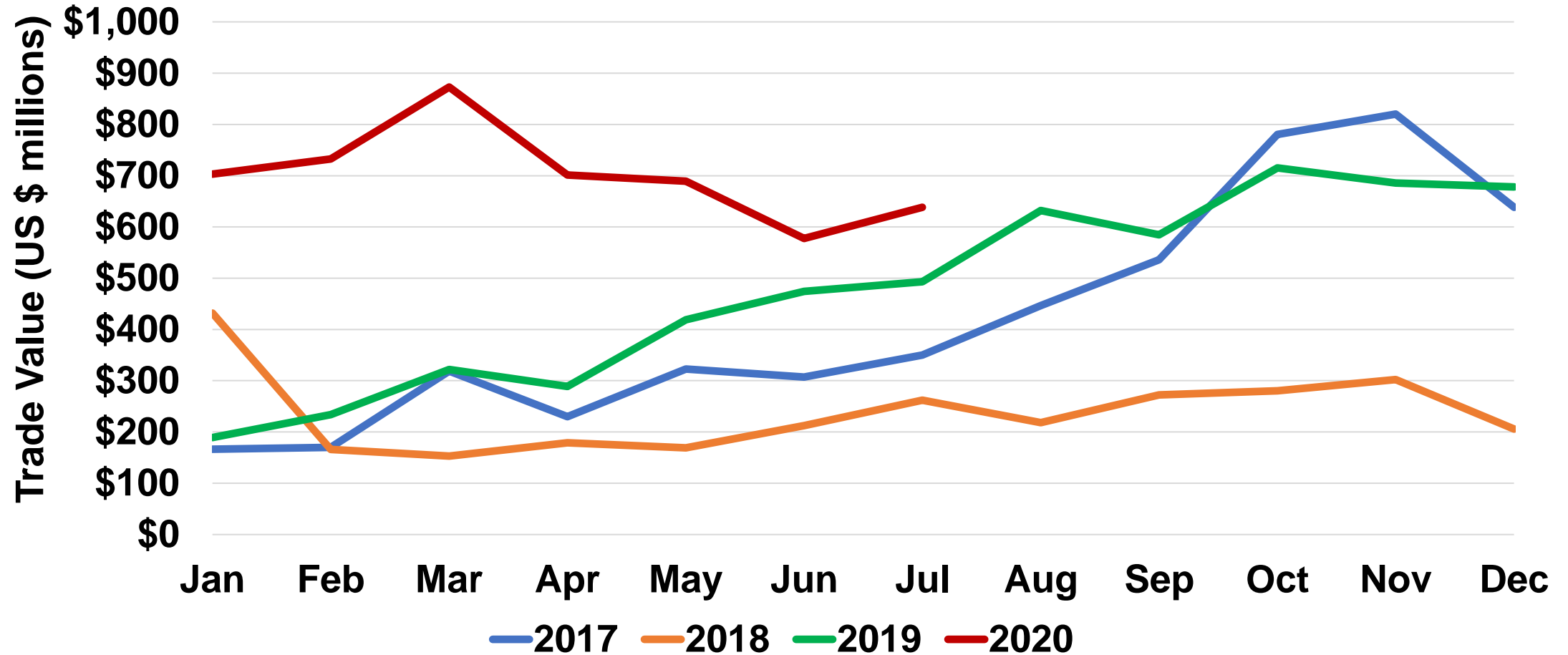
# Regional PV & Wind Electricity Generation Year-on-Year Change (July 2019 – July 2020)



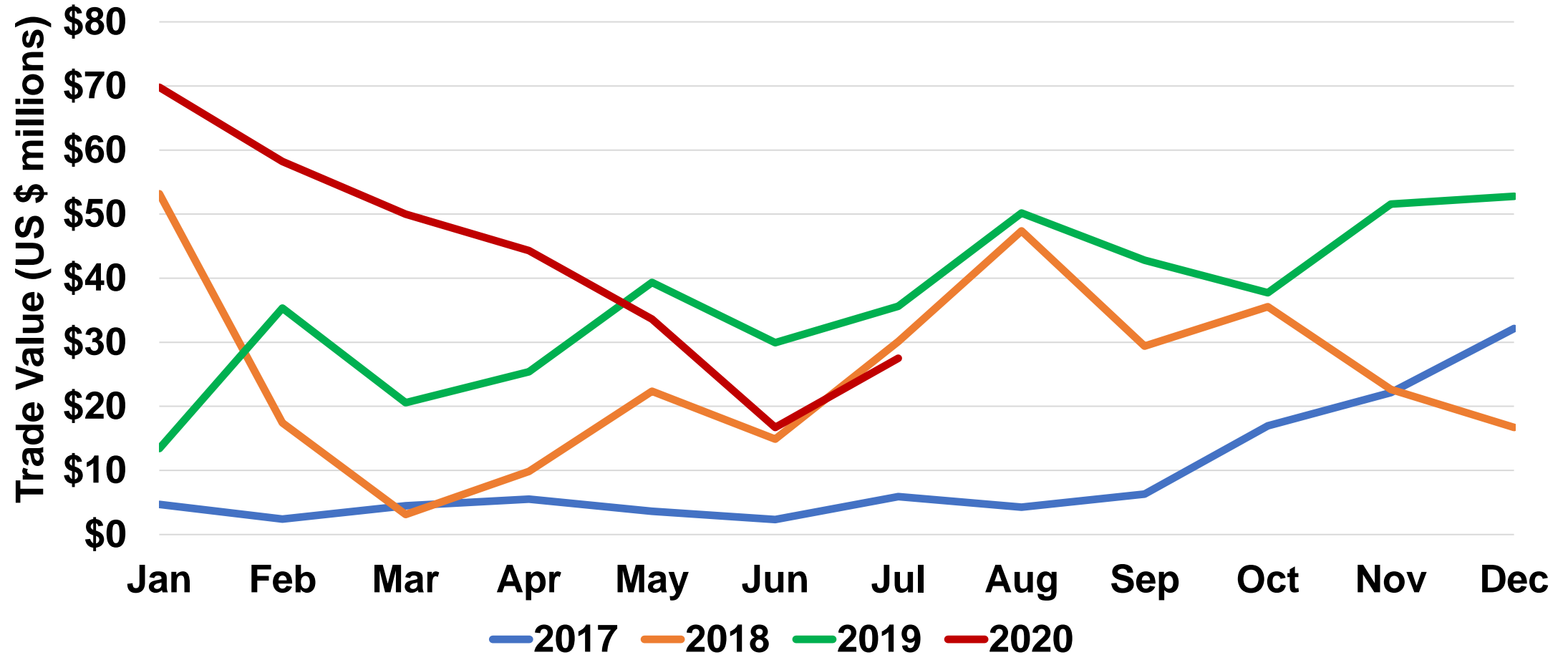


# **U.S. PV Trade (Cells and Panels)**

# U.S. Year-on-Year PV Panel Imports Year-on-Year (through July 2020)

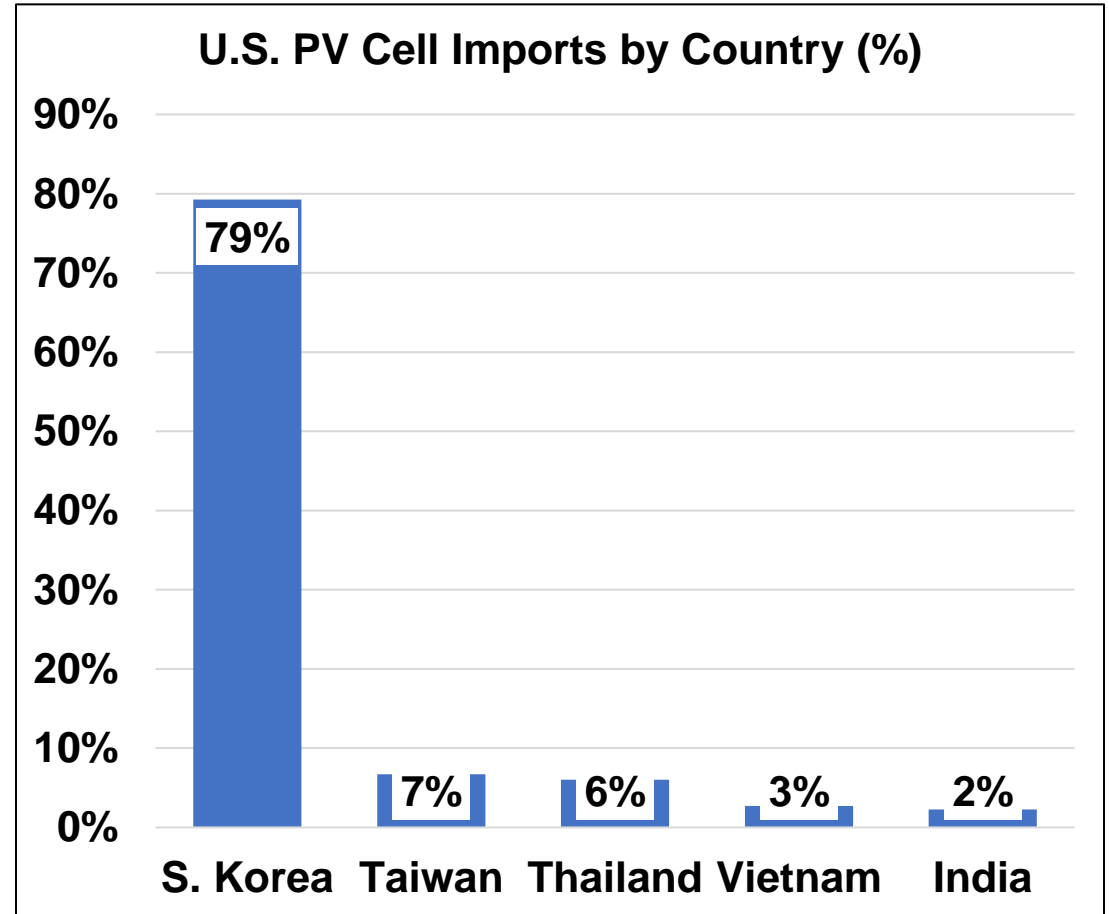
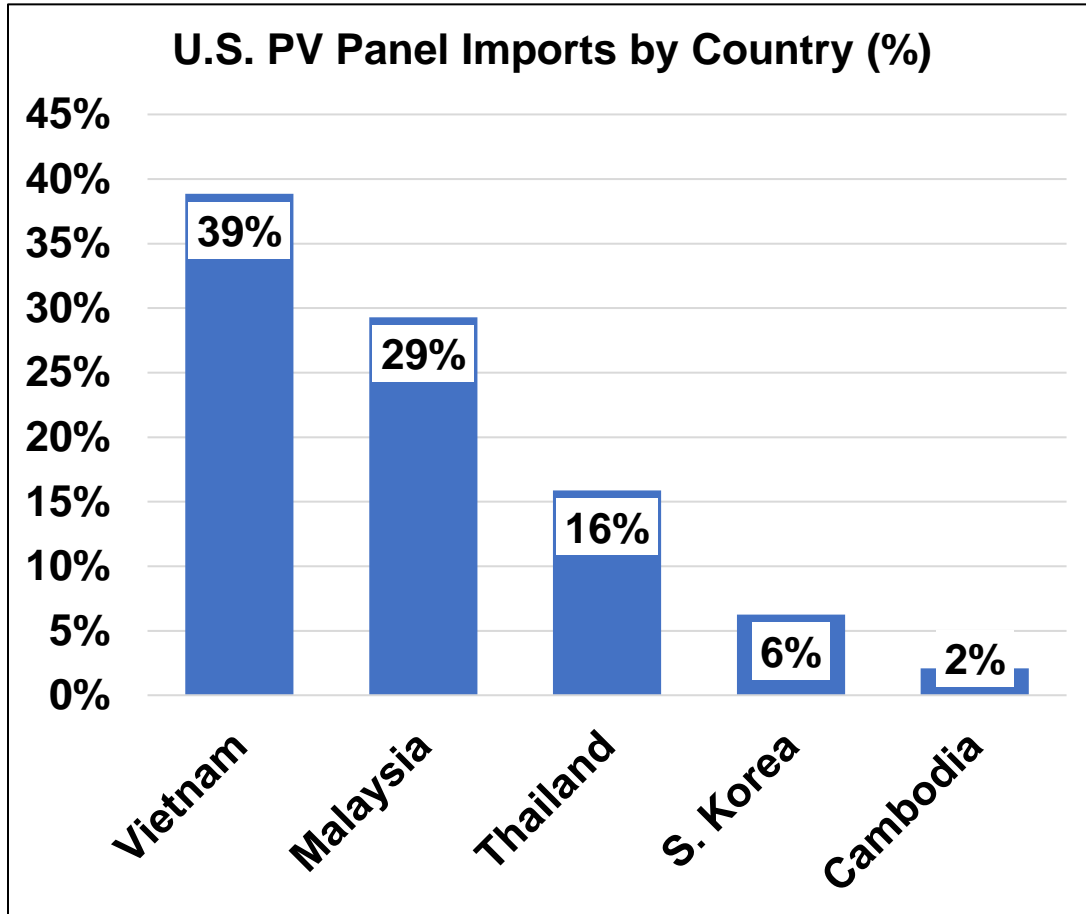


# U.S. Year-on-Year PV Cell Imports Year-on-Year (through July 2020)

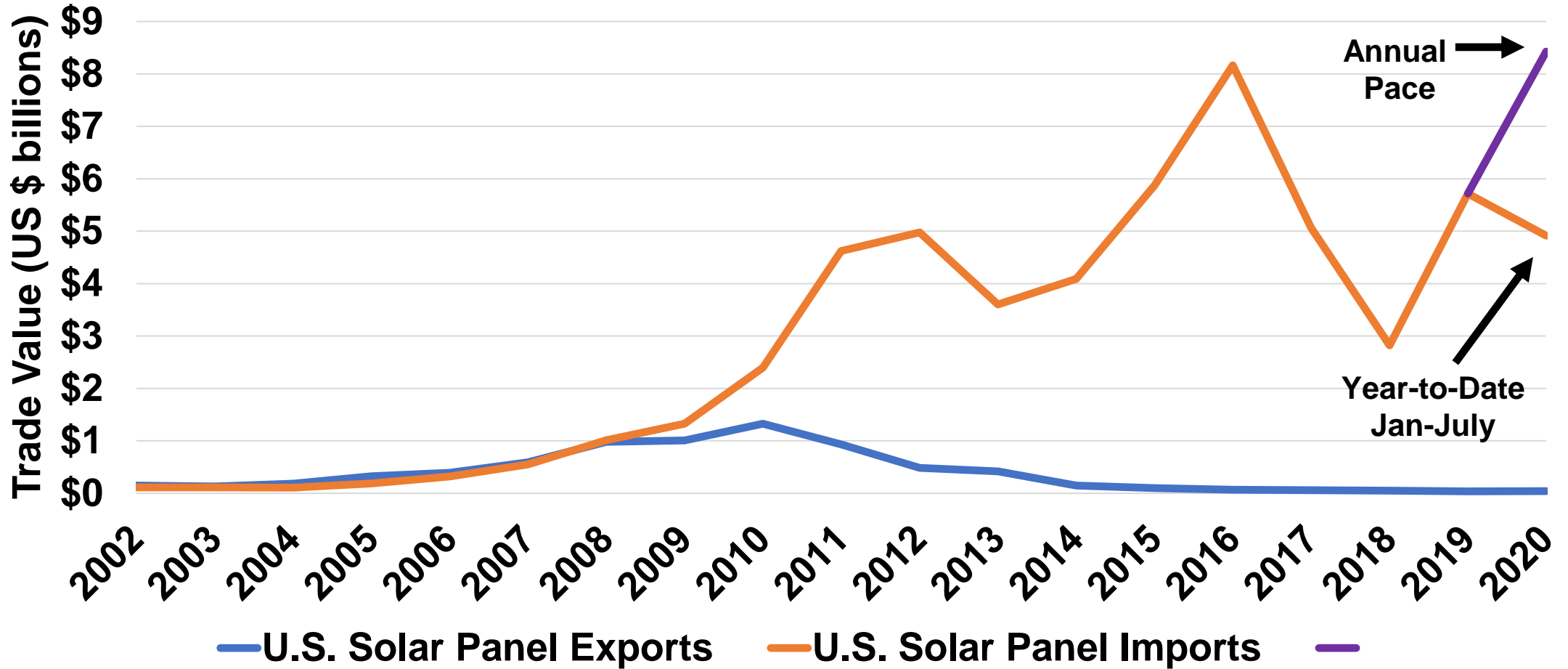




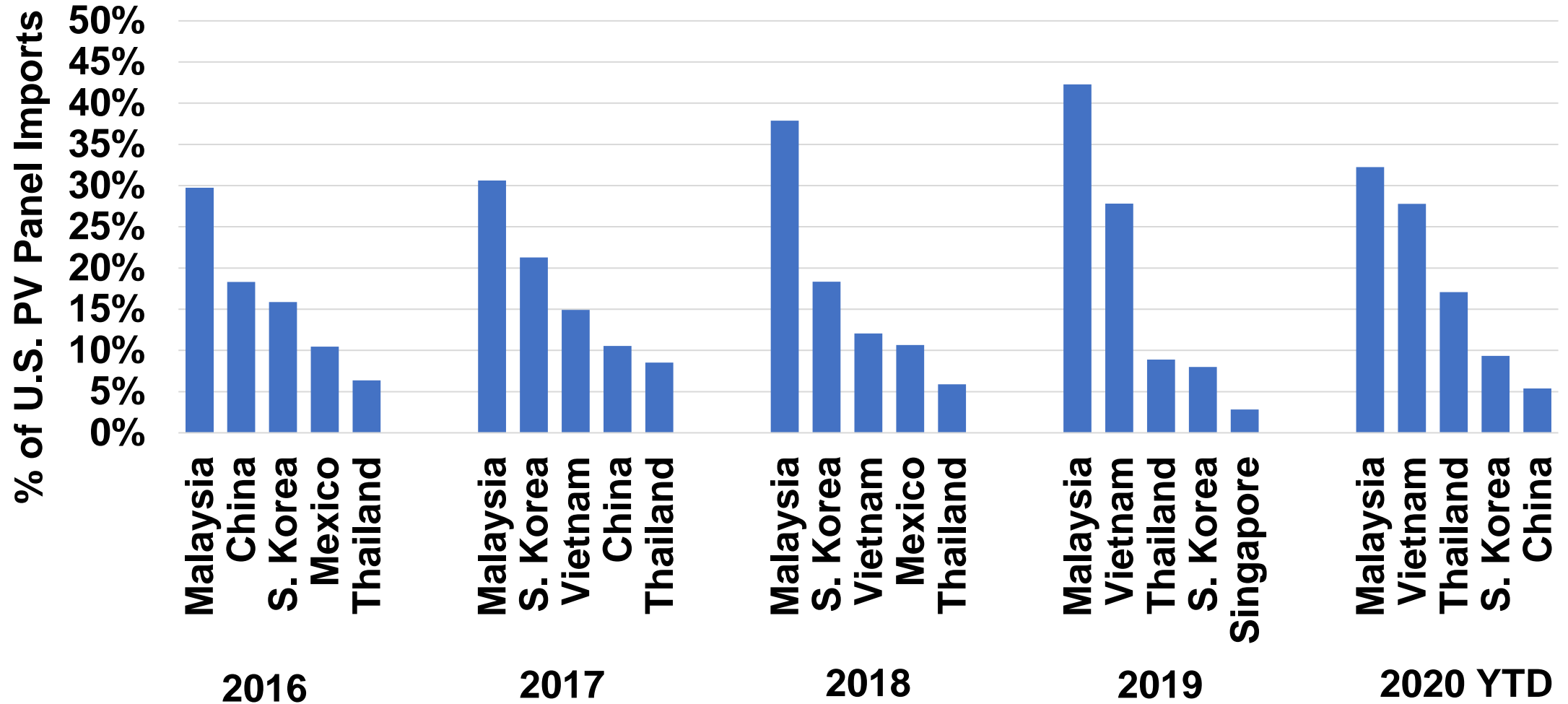
# Monthly U.S. PV Panel and Cell Imports by Country July 2020



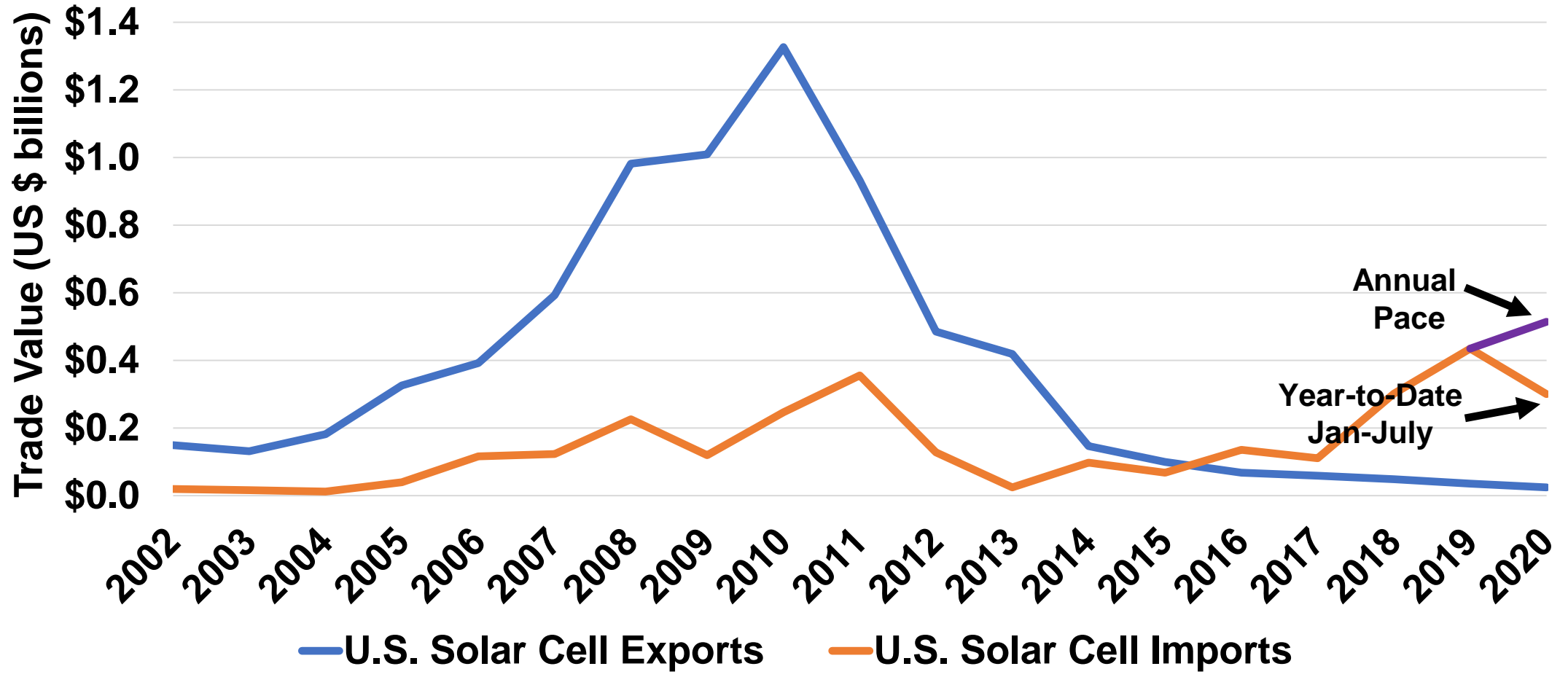
# U.S. Annual PV Panel Trade



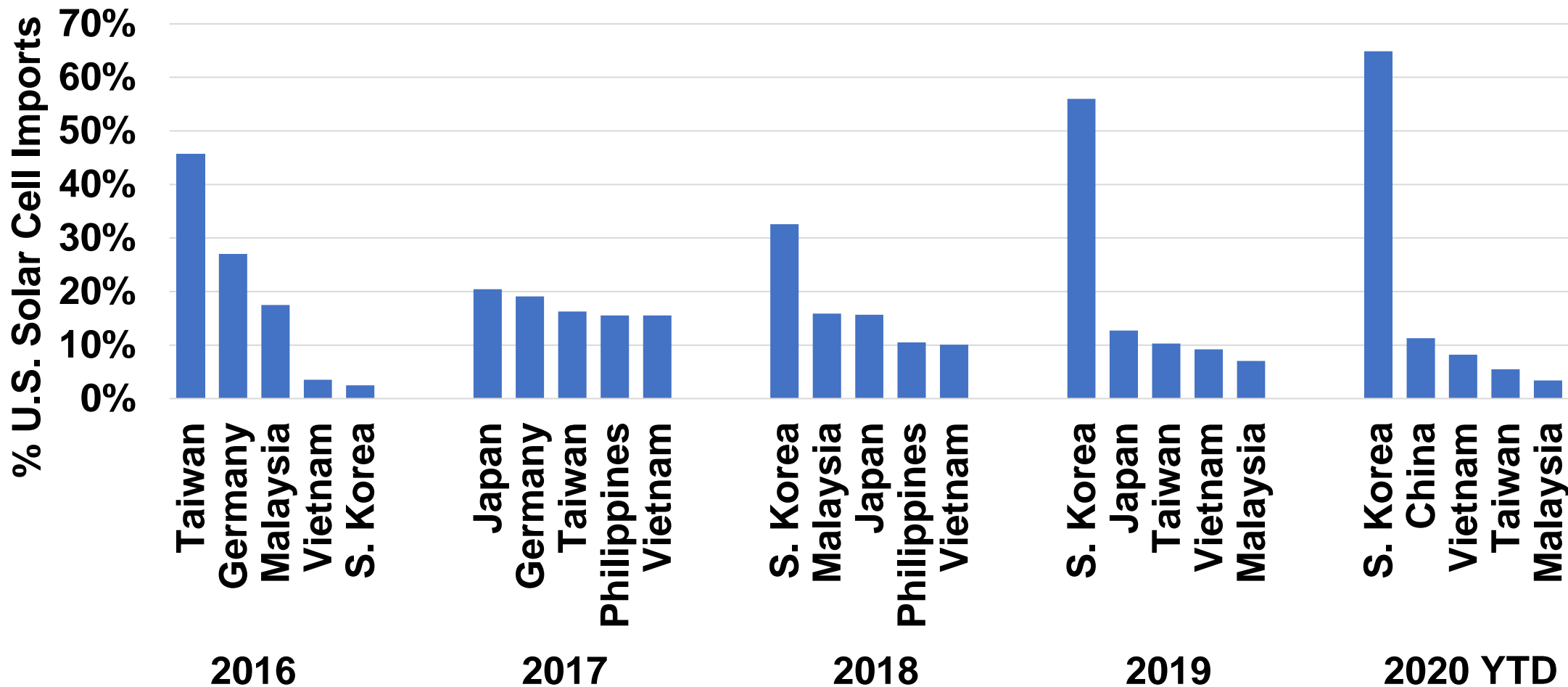
# Annual U.S. PV Panel Imports Rank Order of Countries 2020 through July



# Annual U.S. PV Cell Trade



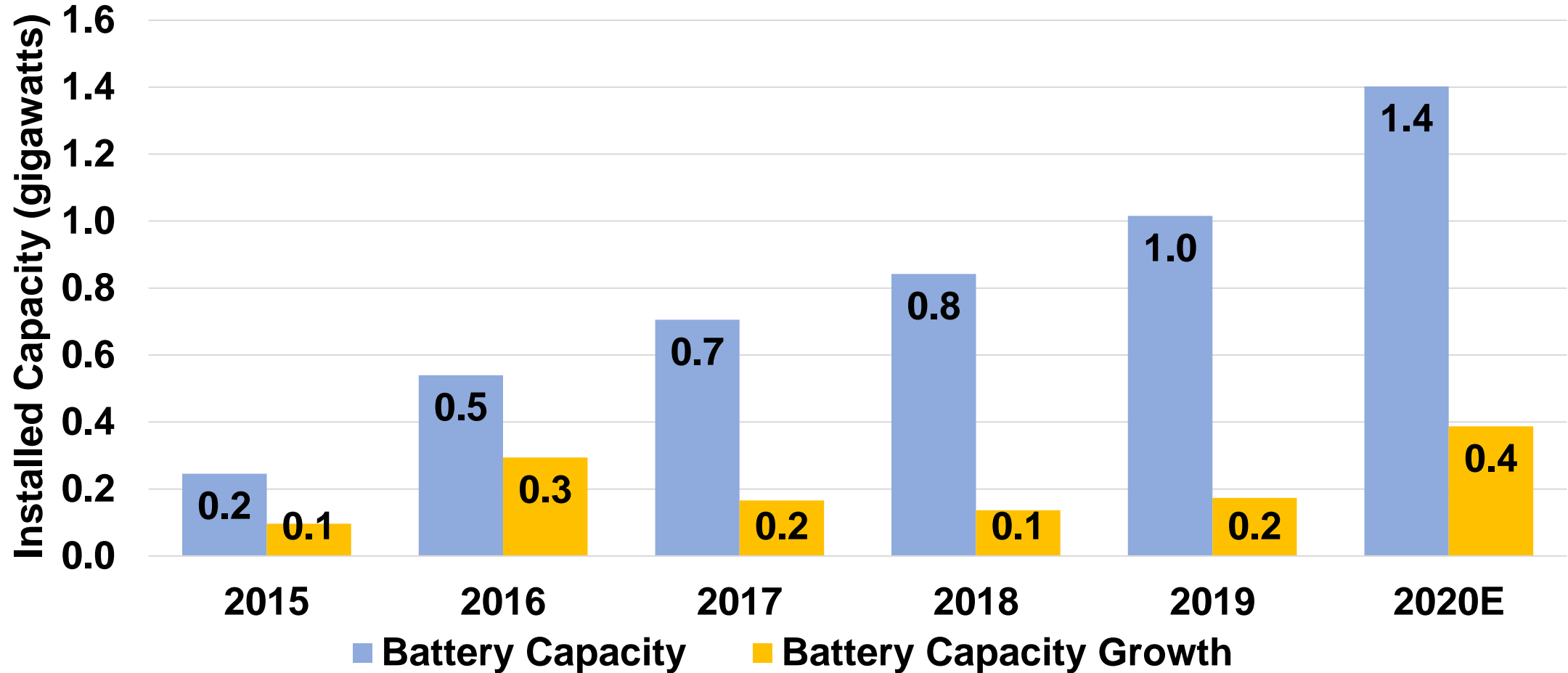
# U.S. PV Cell Imports Rank Order of Countries 2020 through July



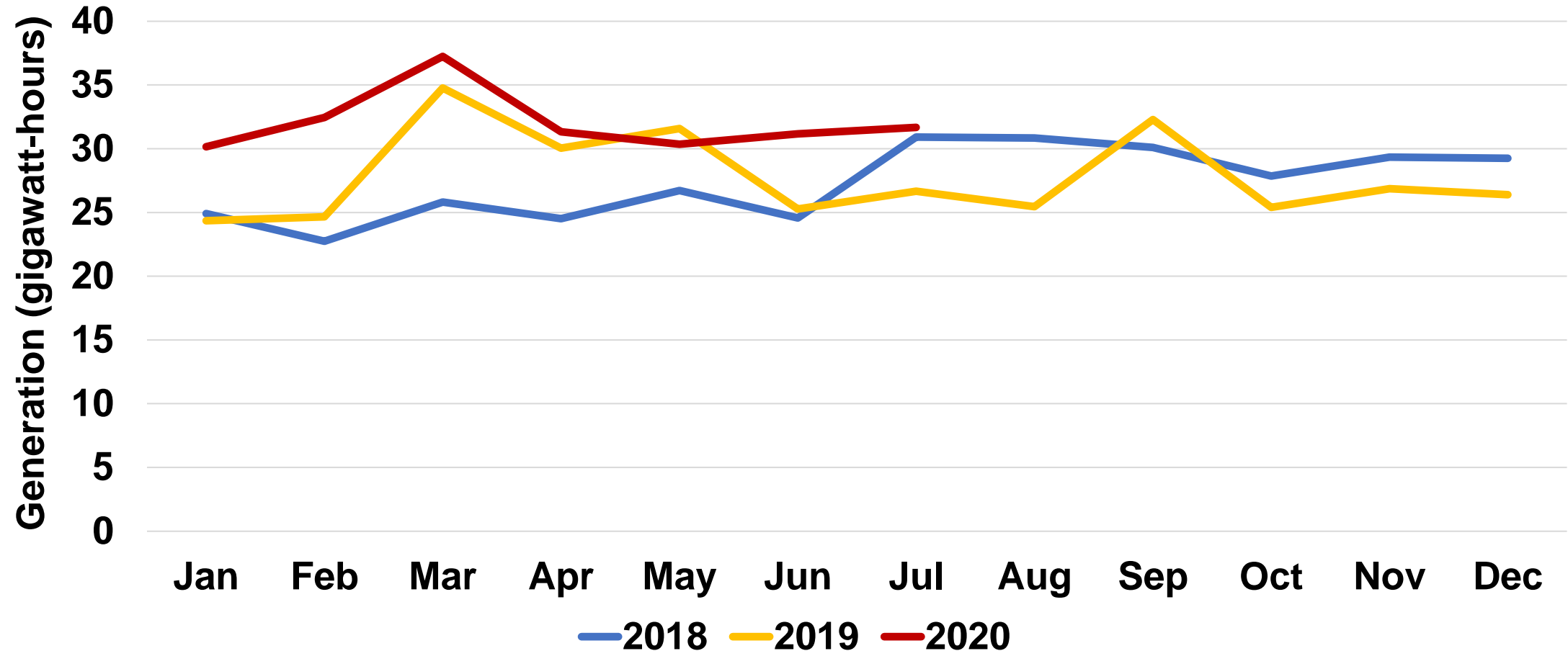


# U.S. Battery Storage

# Battery Storage Capacity and Growth – 2020 Forecast



# Battery Stored Electricity Generation Year-on-Year (through July 2020)

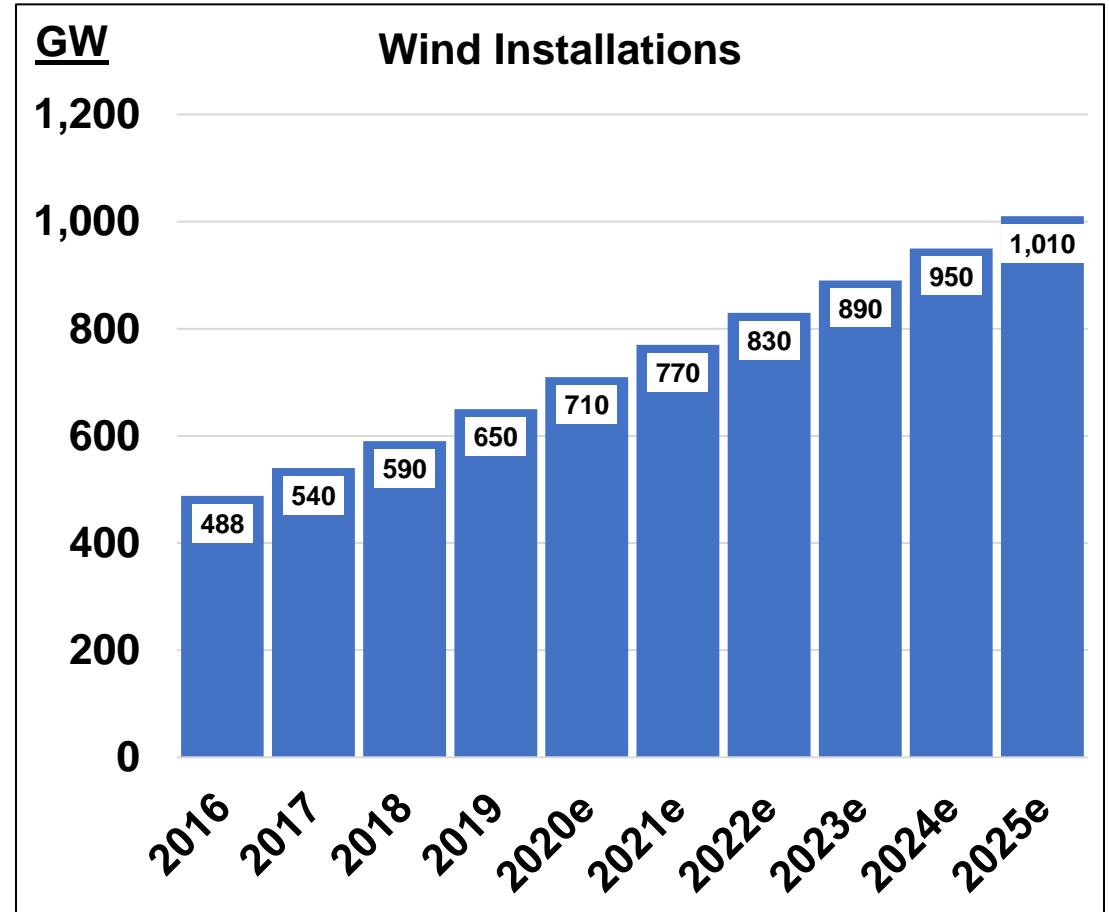
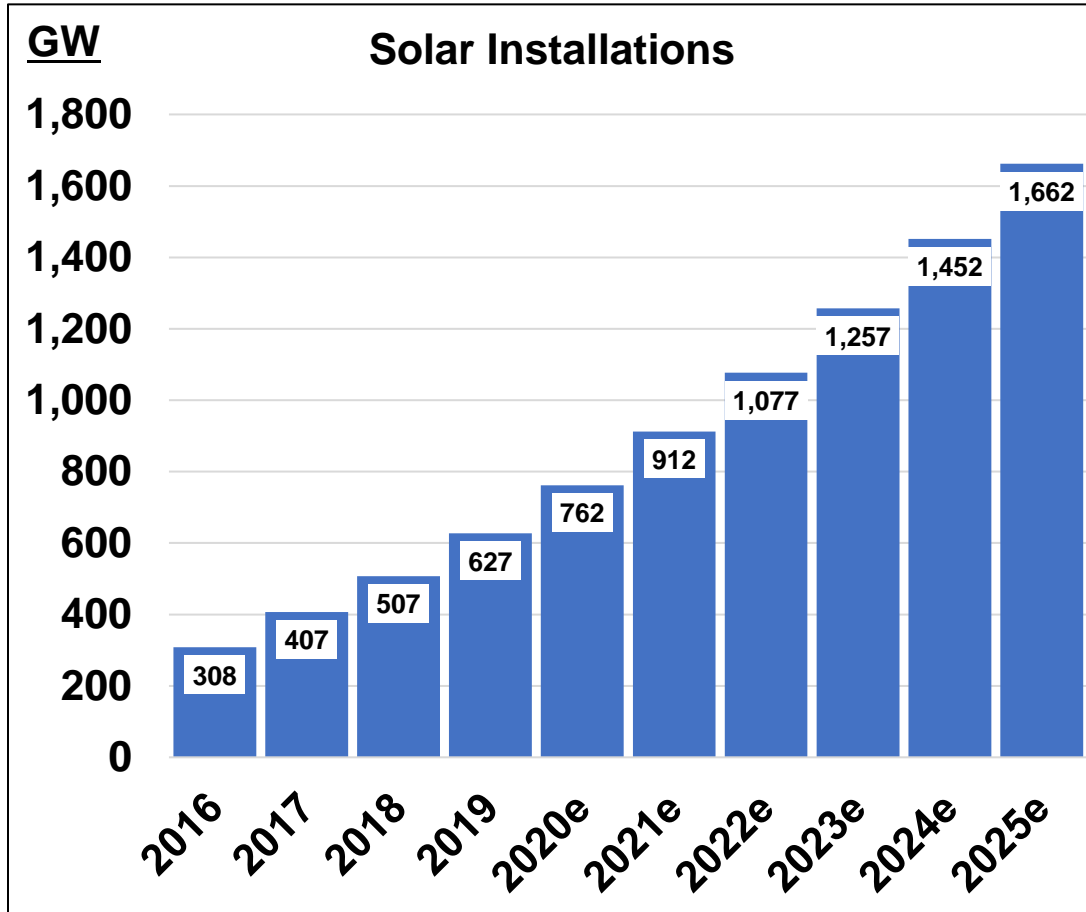




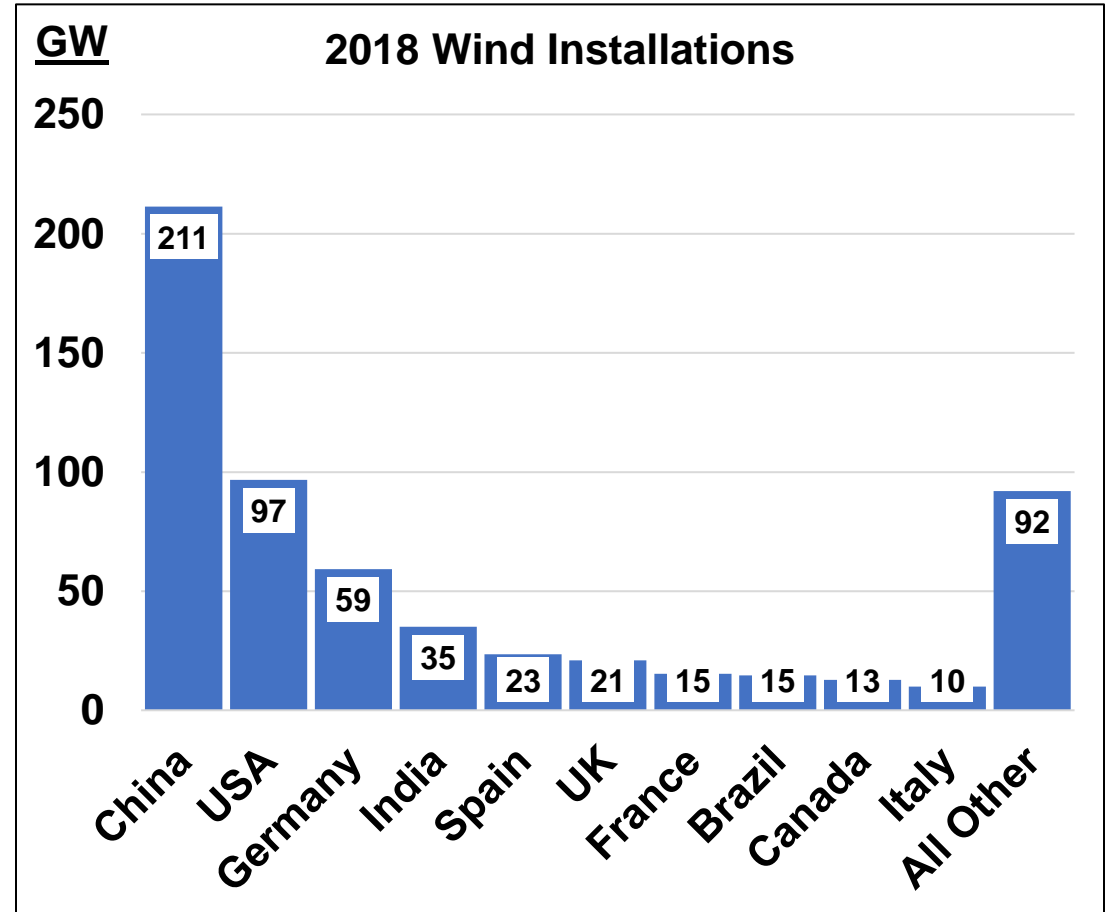
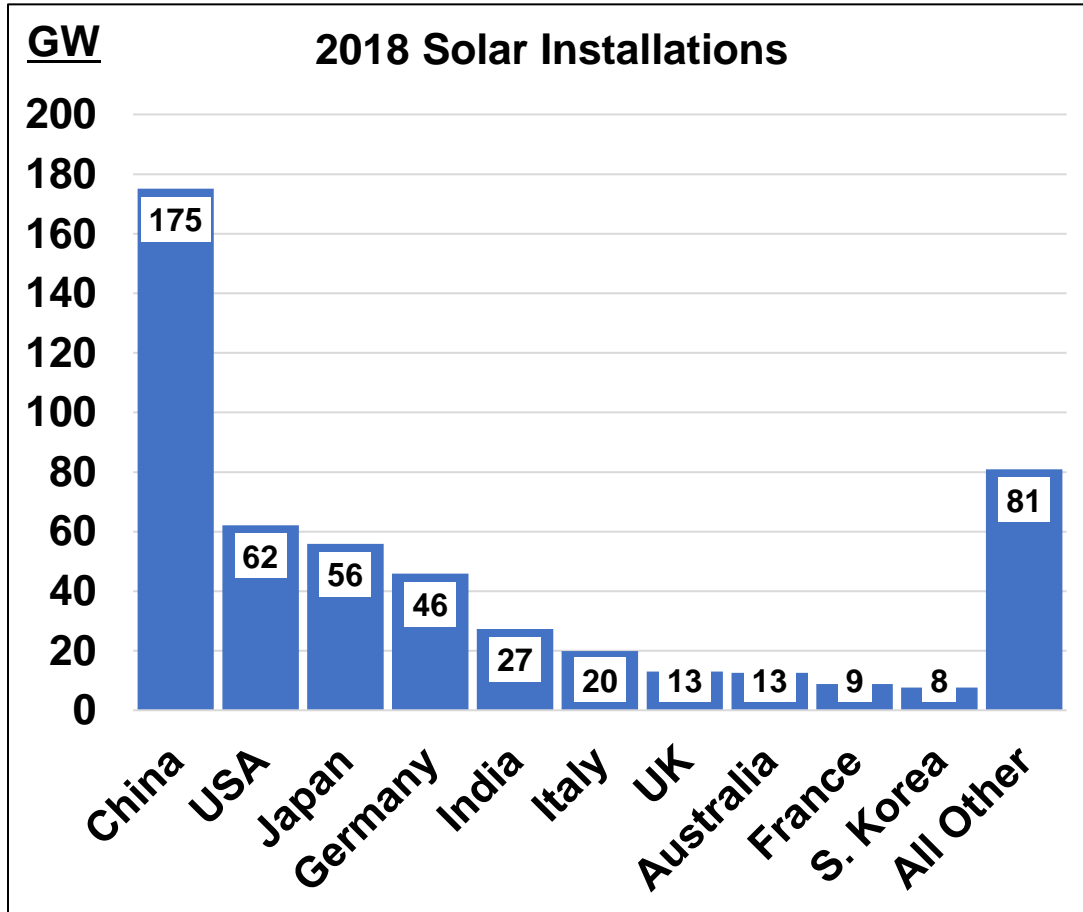


# Global Solar and Wind

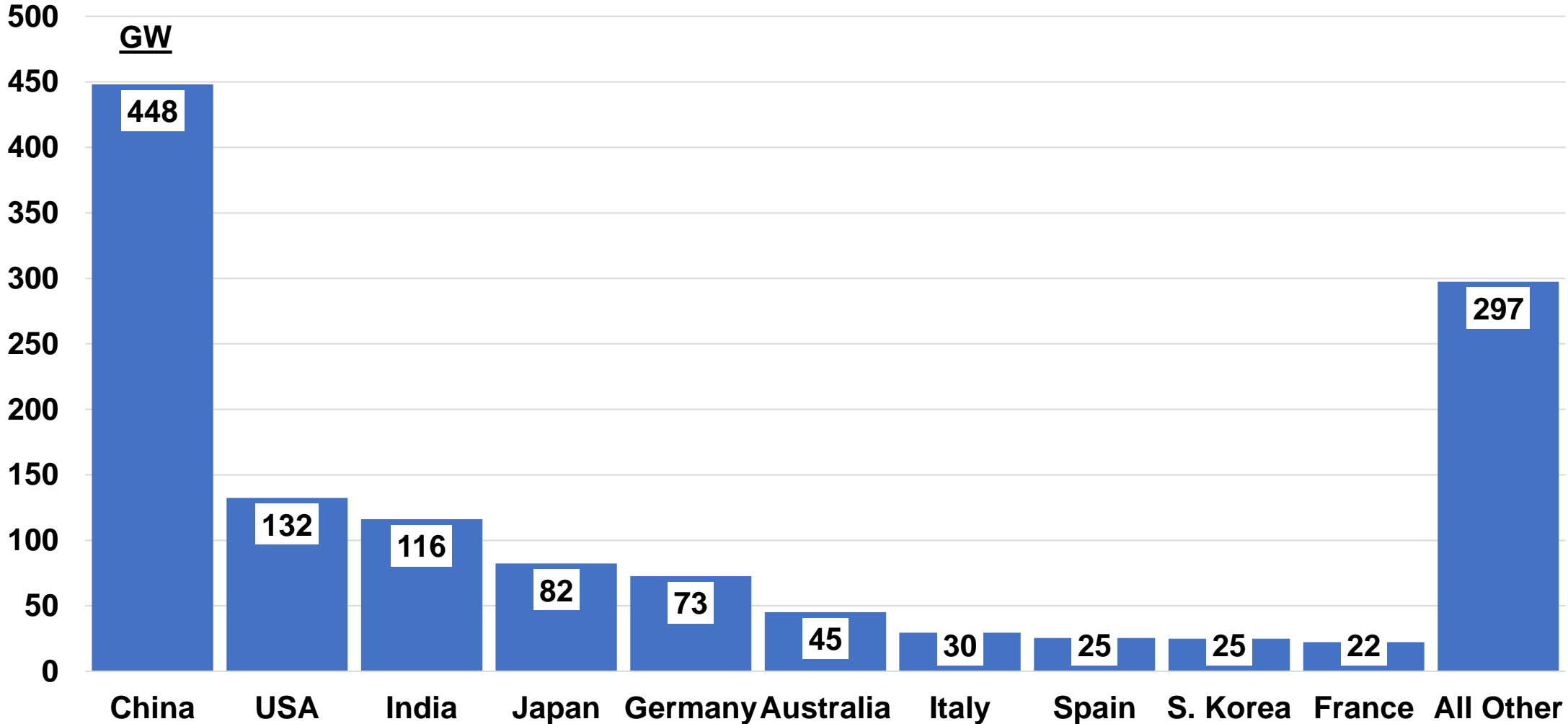
# World Cumulative Solar and Wind Installations



# 2018 Cumulative Solar and Wind Installations by Country



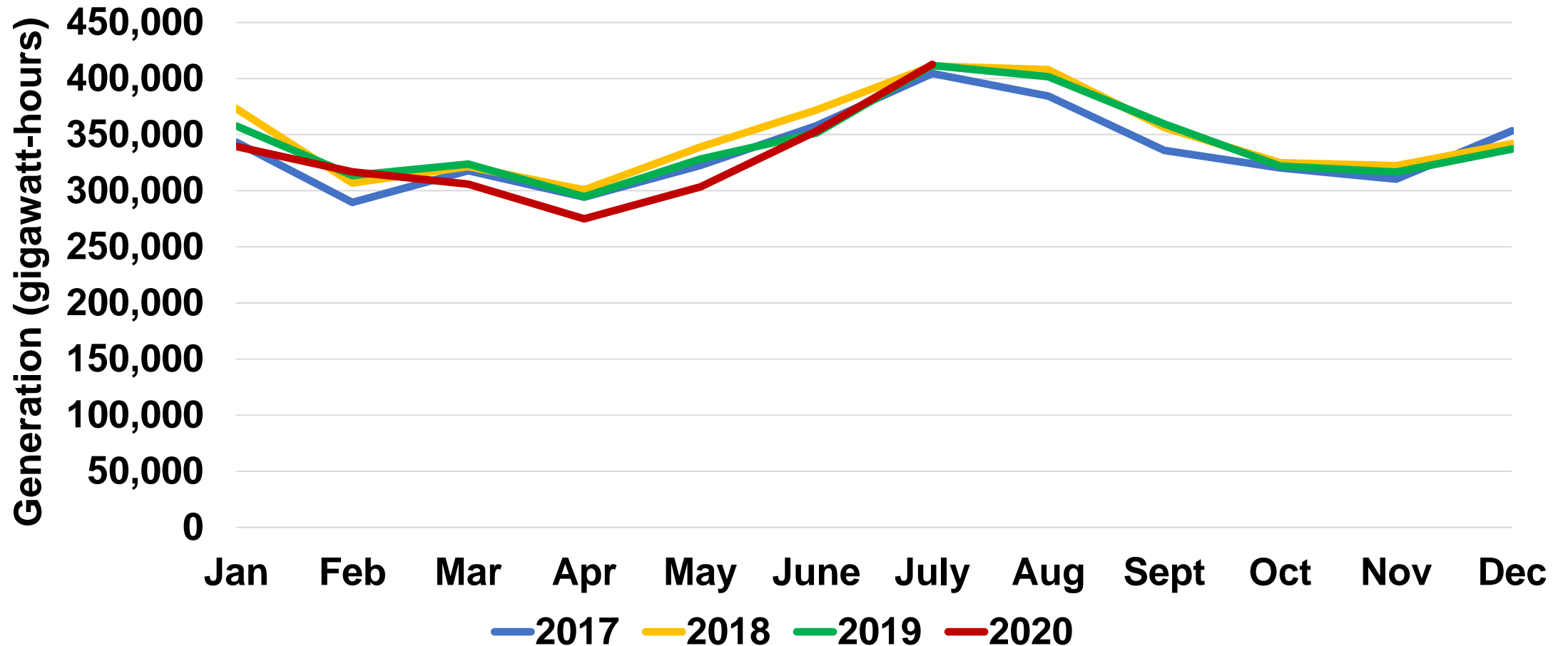
# 2023 Forecast Cumulative Solar Installations by Country



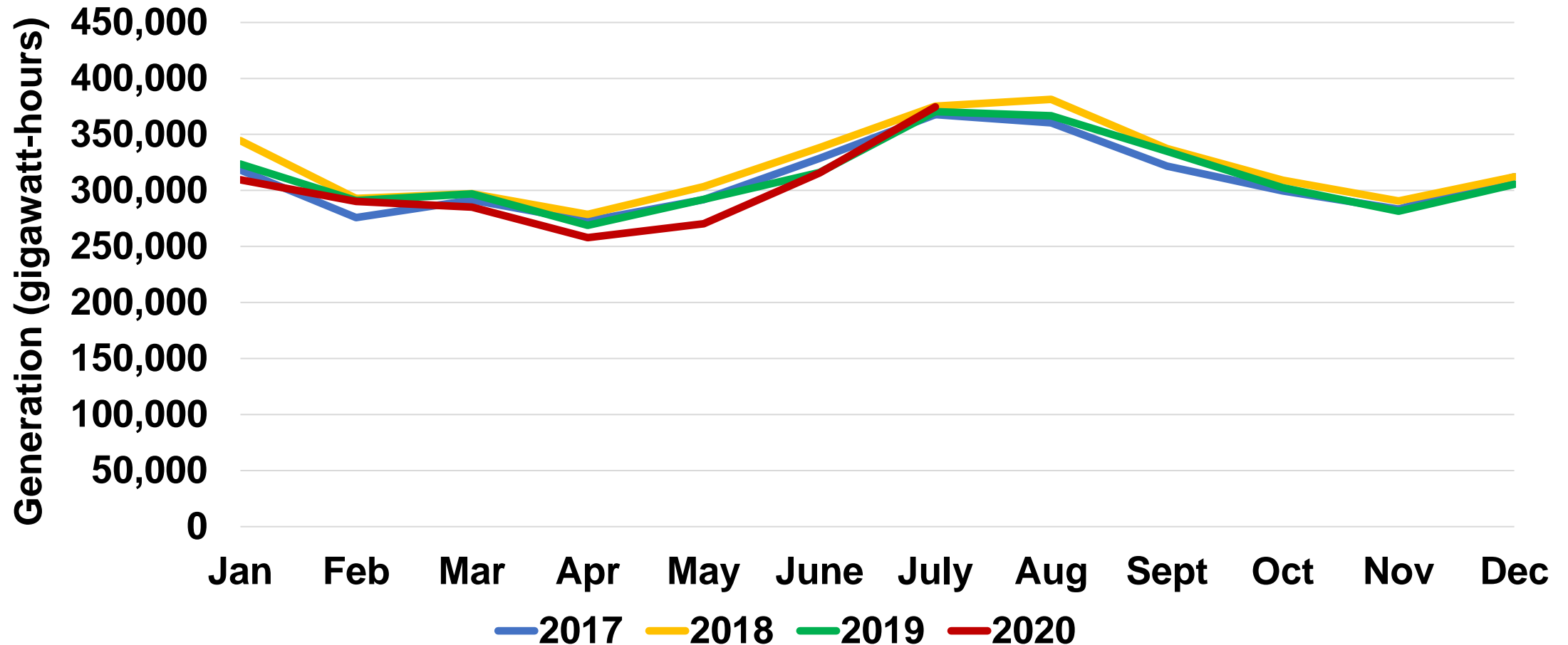
# **U.S. Electricity Market Overview**

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

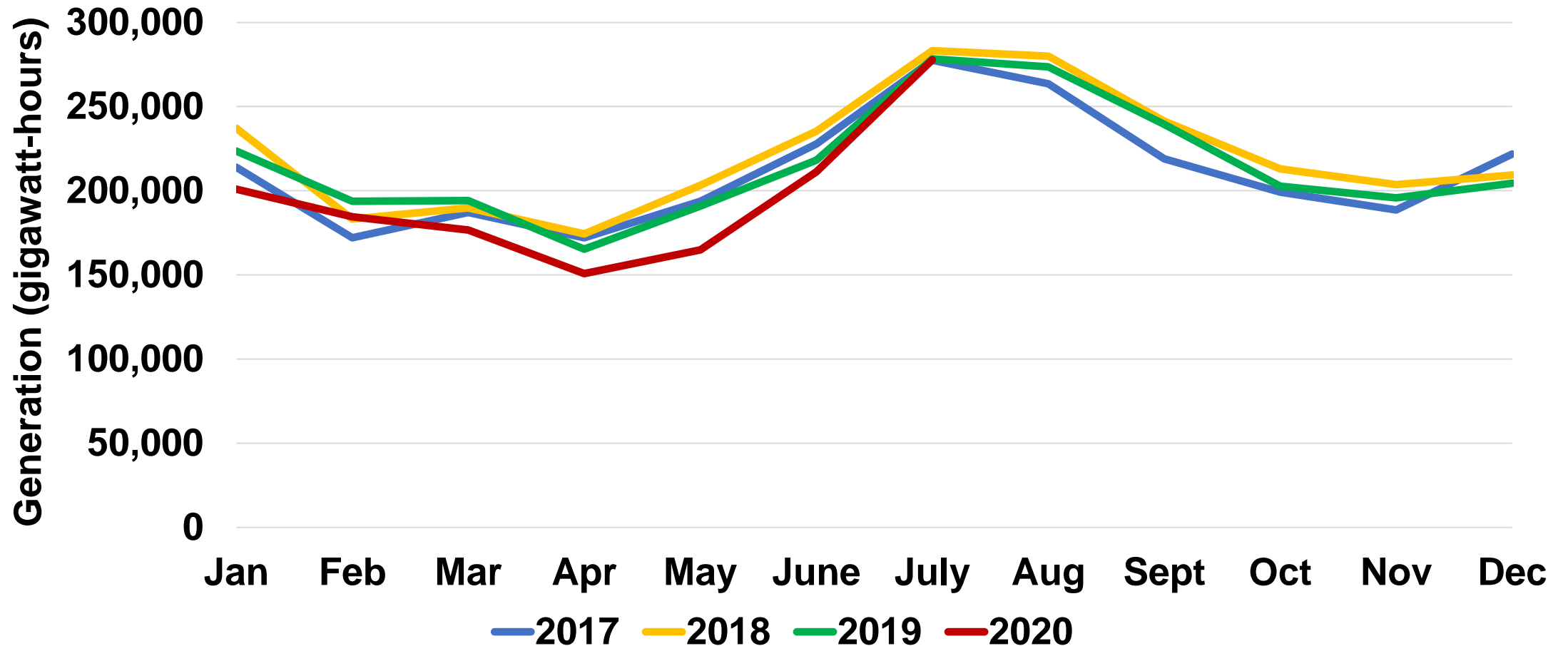
# U.S. Total Electricity Supply (Generation) Year-on-Year (through July 2020)



# U.S. Total Electricity Demand (Retail Sales) Year-on-Year (through July 2020)

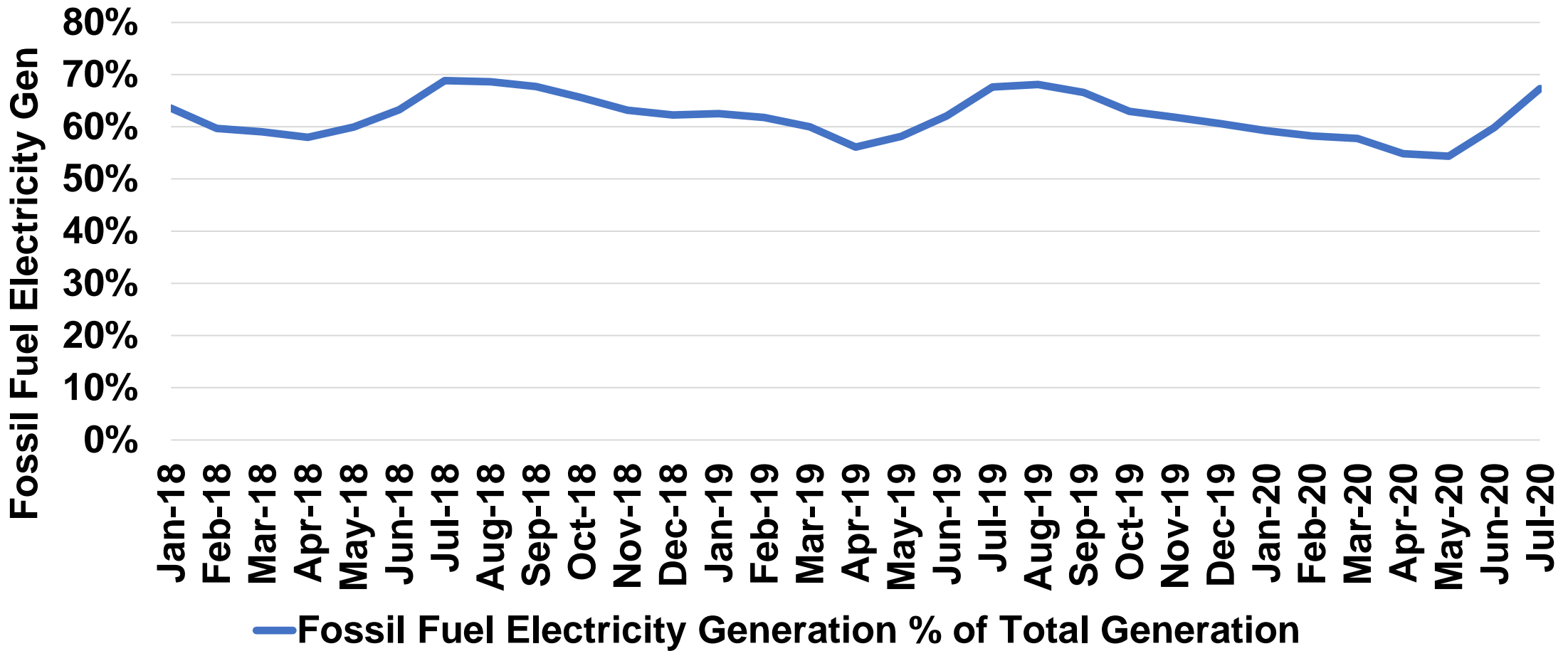


# U.S. Fossil Fuel Electricity Generation Year-on-Year (through July 2020)

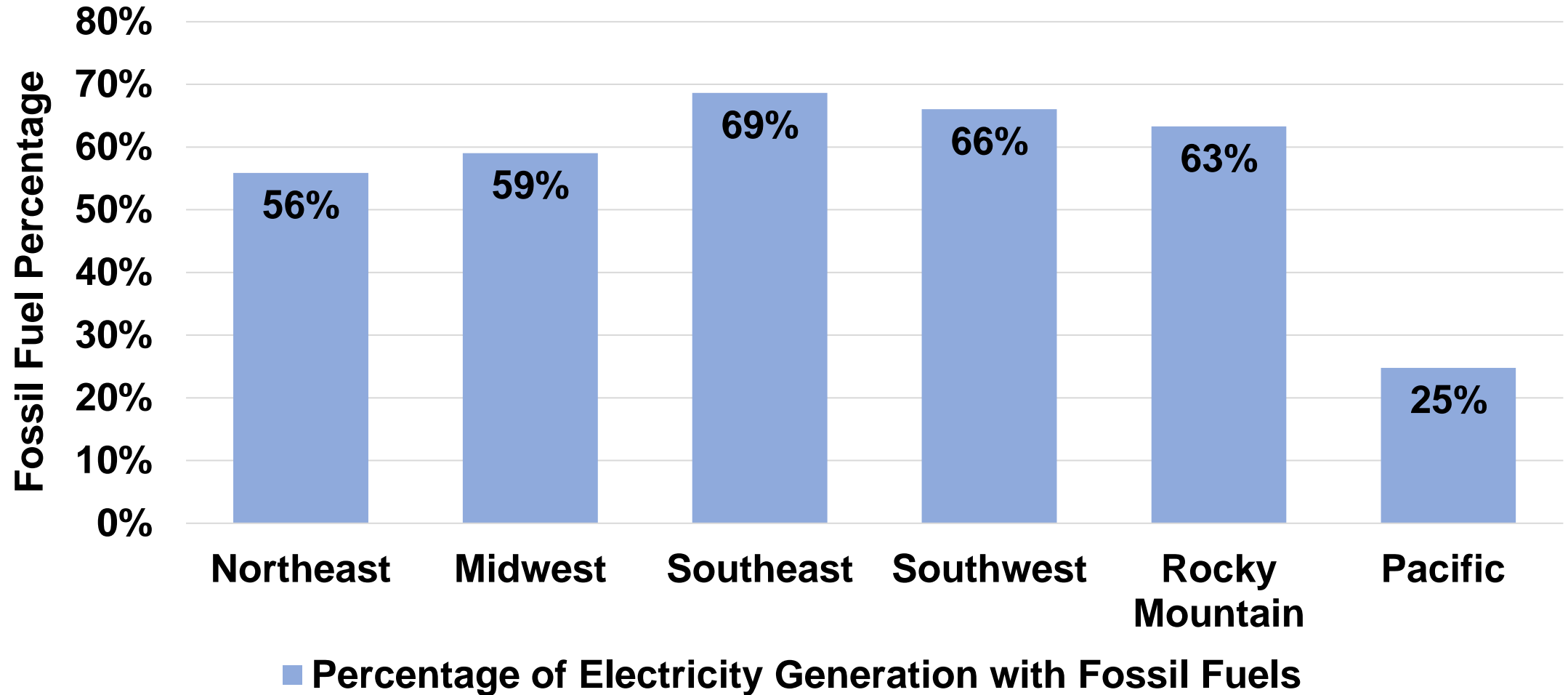




# U.S. Fossil Fuel Electricity Generation % of Total Generation



# Regional Electricity Generation from Fossil Fuels July 2020

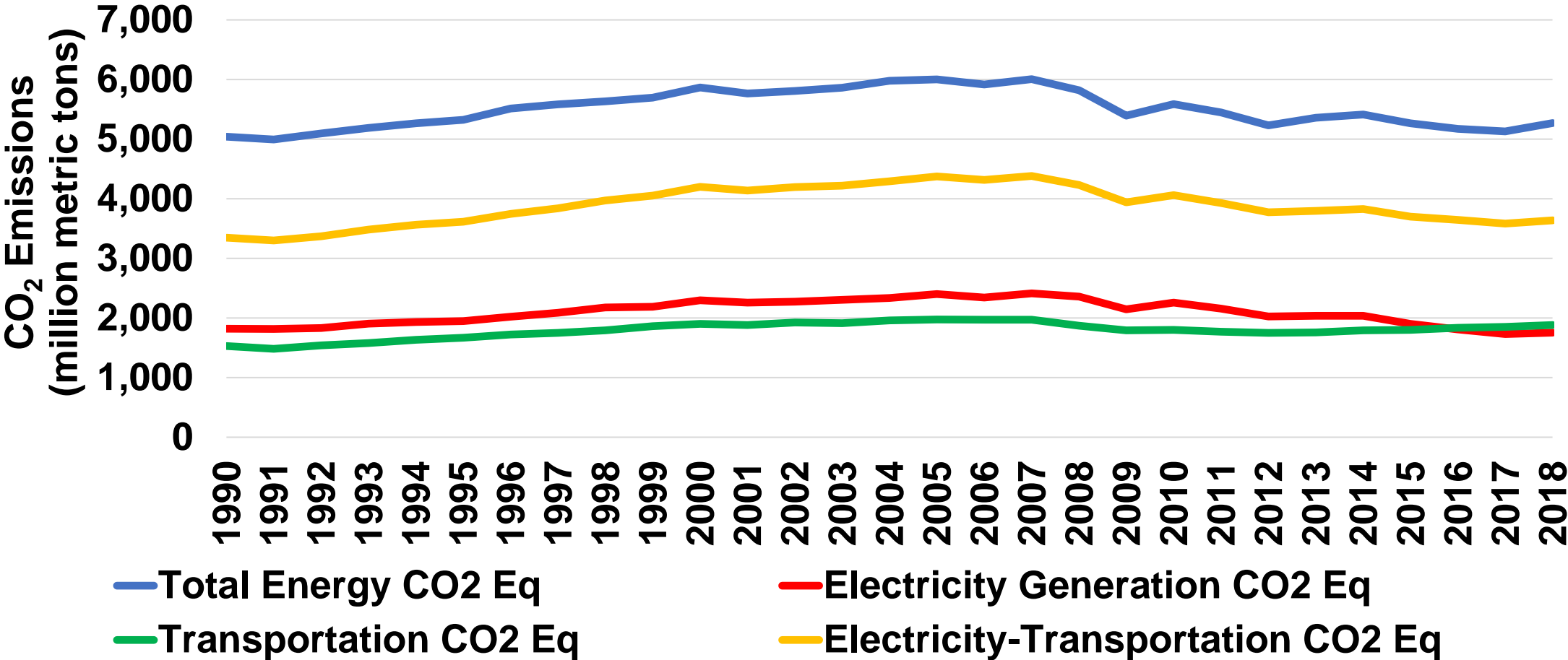


# U.S. Electric Power Industry Fossil Fuel Consumption July 2020



	Coal (Short Tons)	Natural Gas (Mcf)	Other Gases (Billion Btu)	Petroleum (Barrels)
Northeast	1,387,830	180,819,946	258	137,942
Midwest	15,054,600	133,892,363	942	648,142
Southeast	10,039,114	409,587,308	1,544	1,293,089
Southwest	6,595,951	248,545,654	1,506	41,130
Rocky Mountain	3,537,503	38,736,306	203	69,510
Pacific	91,414	55,731,067	813	989,880

# U.S. Fossil Fuel CO<sub>2</sub> Equivalent Emissions

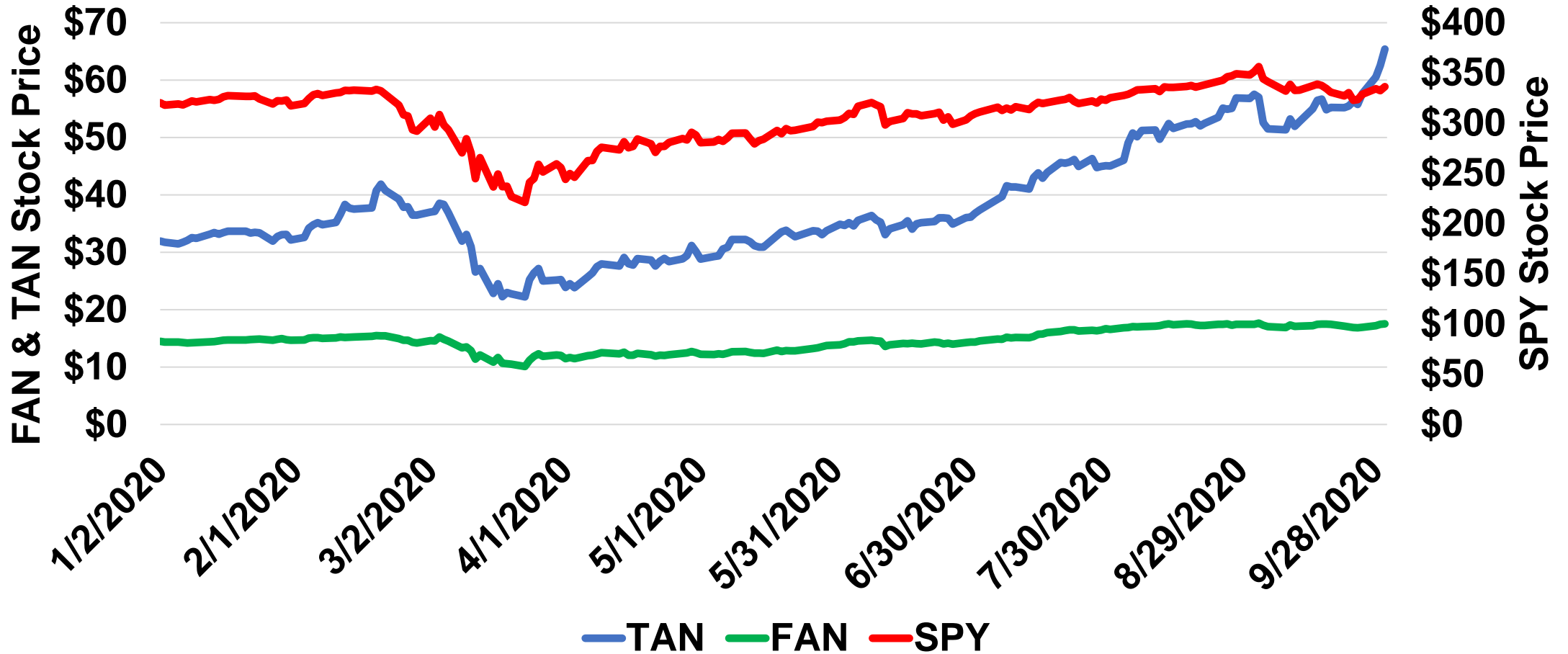


# Wholesale Electricity Prices

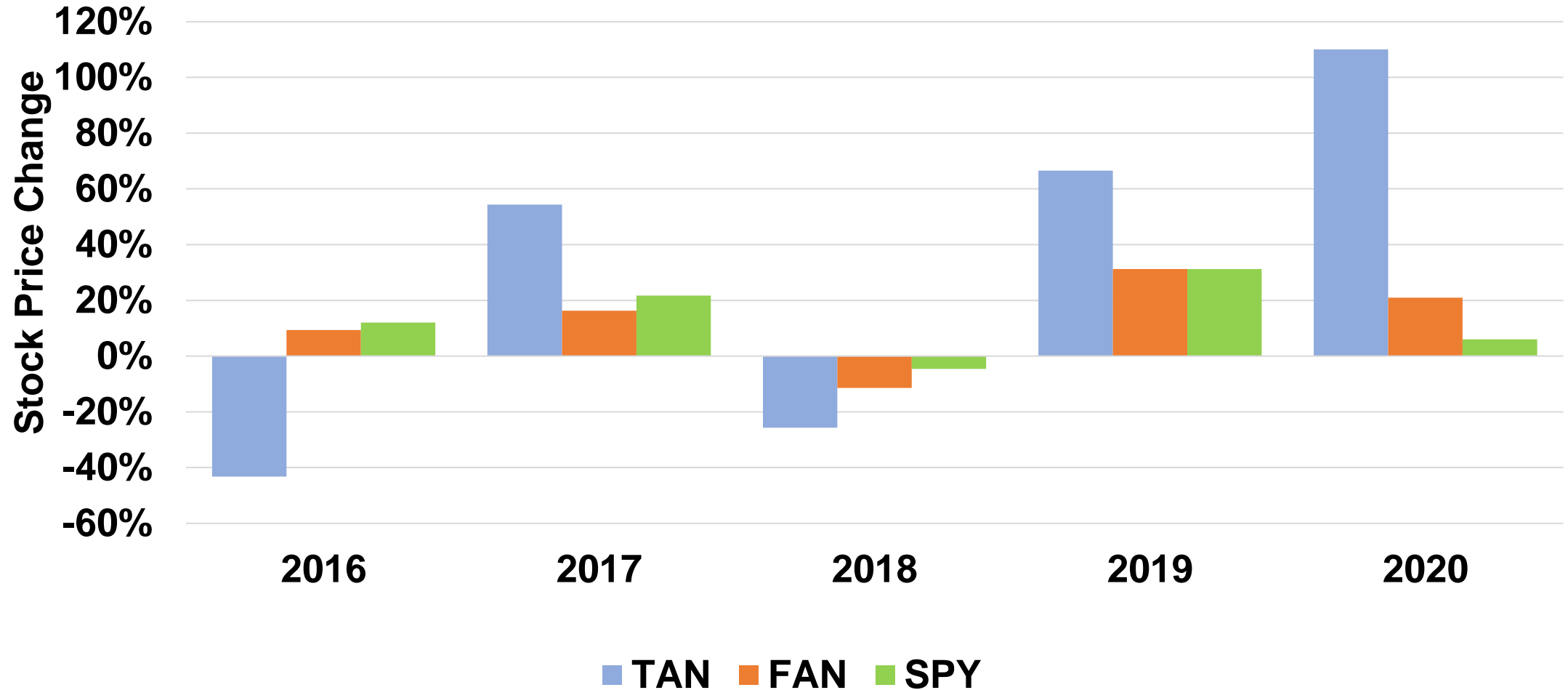


Wholesale Electricity Prices (\$/MWh)	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20
ERCOT North hub	29.71	26.04	22.07	23.9	27.31	30.96
CAISO SP15 zone	25.49	17.11	16.81	23.72	31.63	30.5
ISO-NE Internal hub	19.17	20.13	18.23	22.4	27.87	23.66
NYISO Hudson Valley zone	18.17	16.59	16.49	21.3	26.88	23.2
PJM Western hub	21.23	19.29	20.38	22.7	31.81	29.24
MISO Illinois hub	21.92	20.64	22.59	25.78	32.5	31.91
SPP ISO South hub	18.45	17.37	19.45	21.8	26.45	28.74
SERC index, Into Southern	18.09	17.56	18.59	18.53	23.13	31.36
FRCC index, Florida Reliability	23.39	18.73	18.45	18.4	22.38	28.12
Northwest index, Mid-Columbia	23.86	18.34	13.25	11.87	20.18	22.79
Southwest index, Palo Verde	23.88	17.18	16.32	25.28	38.41	29.31

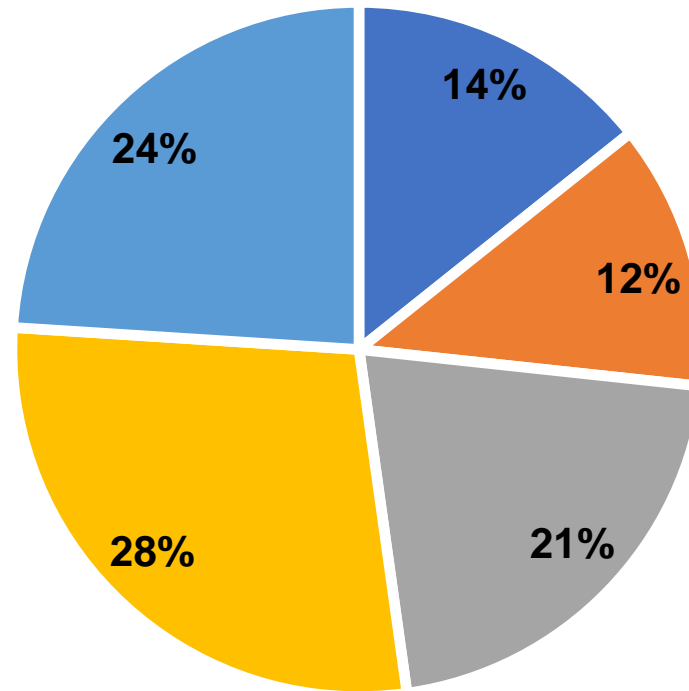
# FAN & TAN Prices Compared with SPY (Adjusted Close Prices to Sept. 30, 2020)



# TAN (Solar), FAN (Wind) and SPY (Market Index) Annual Stock Performance 2016 to 2020 2020 Prices Through September 30, 2020



# U.S. Energy CO<sub>2</sub> Emissions by Sector (2018)



■ Residential ■ Commercial ■ Industrial ■ Transportation ■ Electric Power



# ASAP Regional Map

