

2021 RENEWABLE RESOURCES REPORT & PANDEMIC IMPACTS ON ELECTRIC LOADS

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State Utility Forecasting Group

2021 RENEWABLE RESOURCES REPORT



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Renewable Energy & Electricity Generation

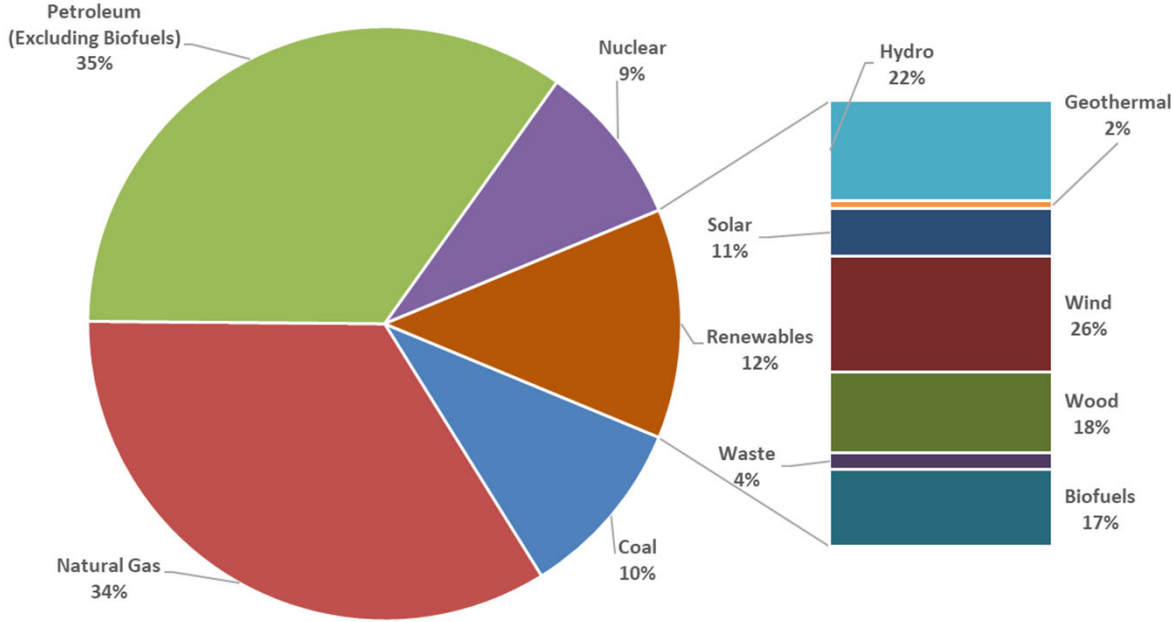
Renewables share of electricity generation is at its highest level

	U.S.	Indiana
Total Energy	12%	6.8%
Electricity Generation	20%	7.1%

- Biomass (including biofuels, wood, and waste to energy) is the largest source of renewable energy locally and nationally
- Wind is the largest source of renewable electricity

2020 U.S. Energy Consumption by Source

Major renewable contributors: hydro, wind, wood, biofuels

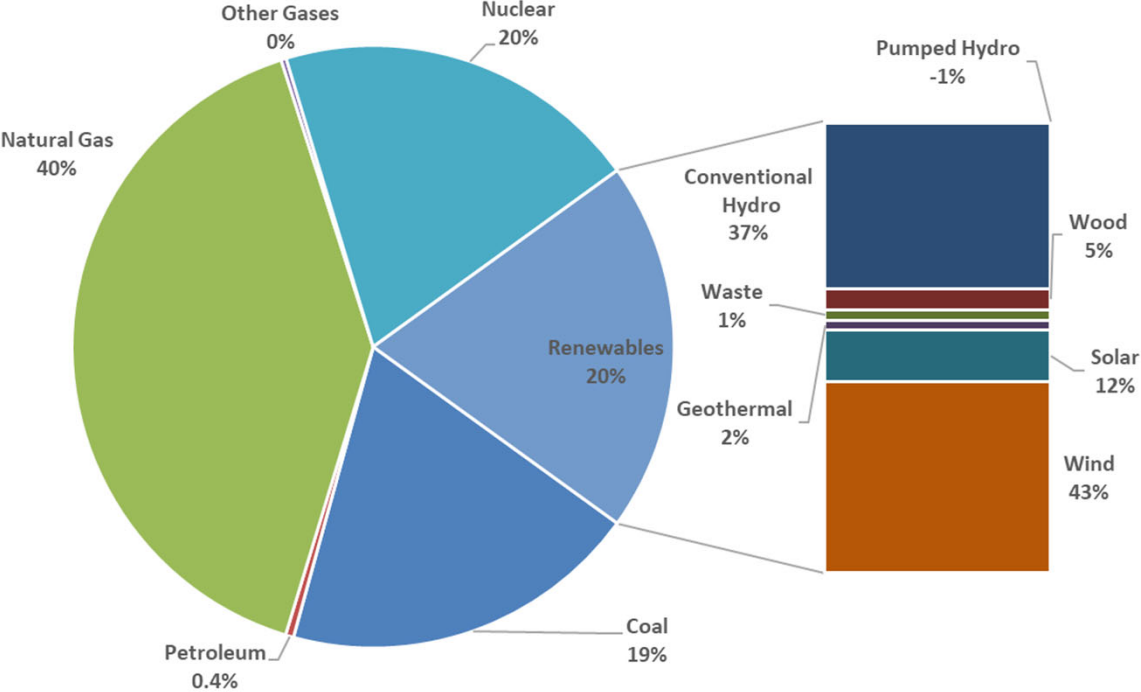


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Data source: EIA

2020 U.S. Electricity Generation by Energy Source

Wind and hydro combined produce 80% of renewable electricity

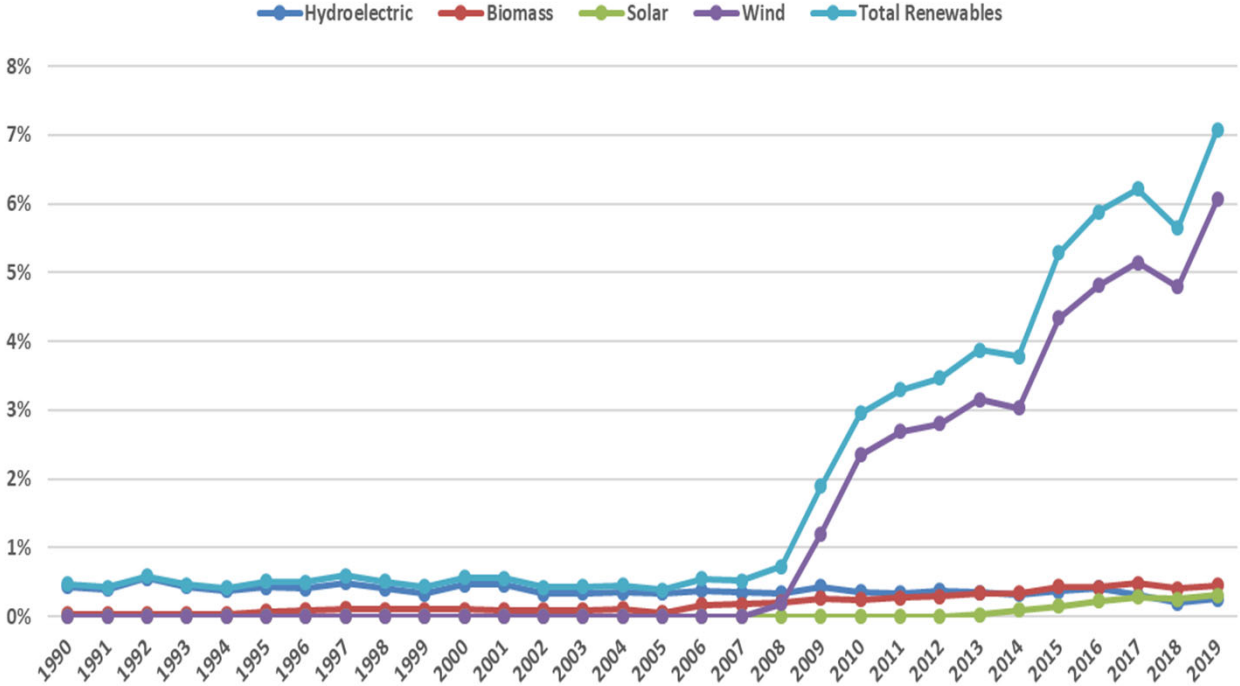


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Data source: EIA

Renewables Share of Indiana Electricity Generation

Wind provides 86% of renewable electricity in Indiana



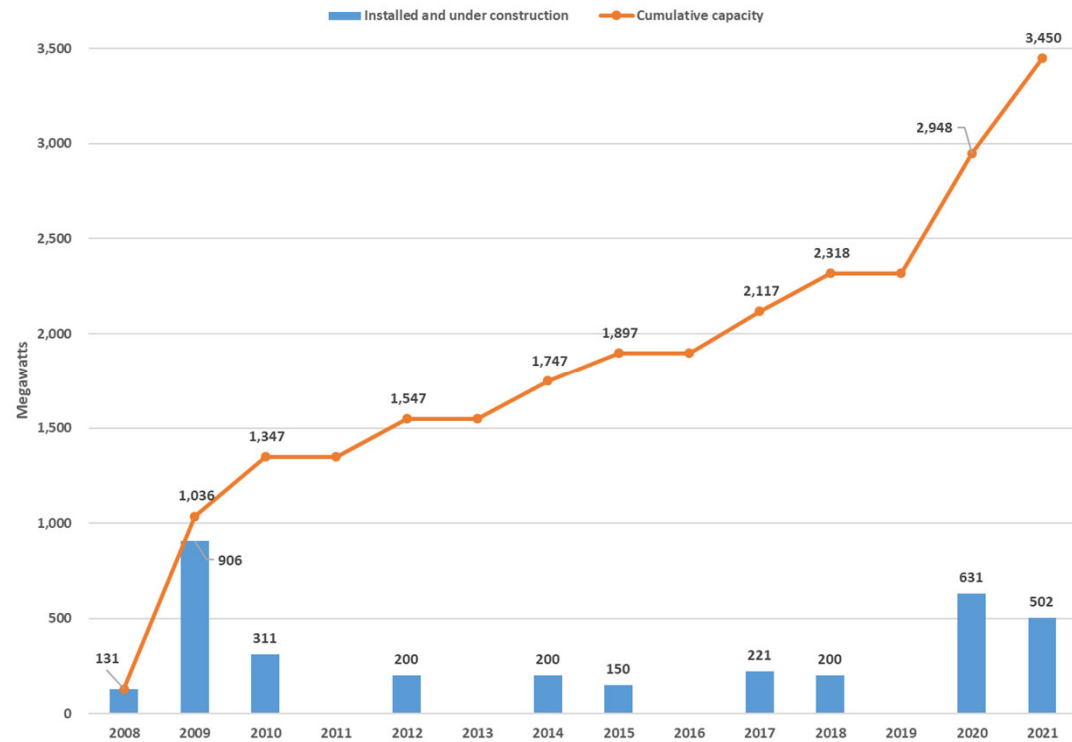
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Data source: EIA

Indiana Wind Generating Capacity

Indiana ranks 12th in the country for wind capacity

- Over 3.4 GW of capacity online by the end of the year
- Indiana utilities have purchased power agreements for over 2.3 GW of wind
- Wind turbine prices have been declining since 2008



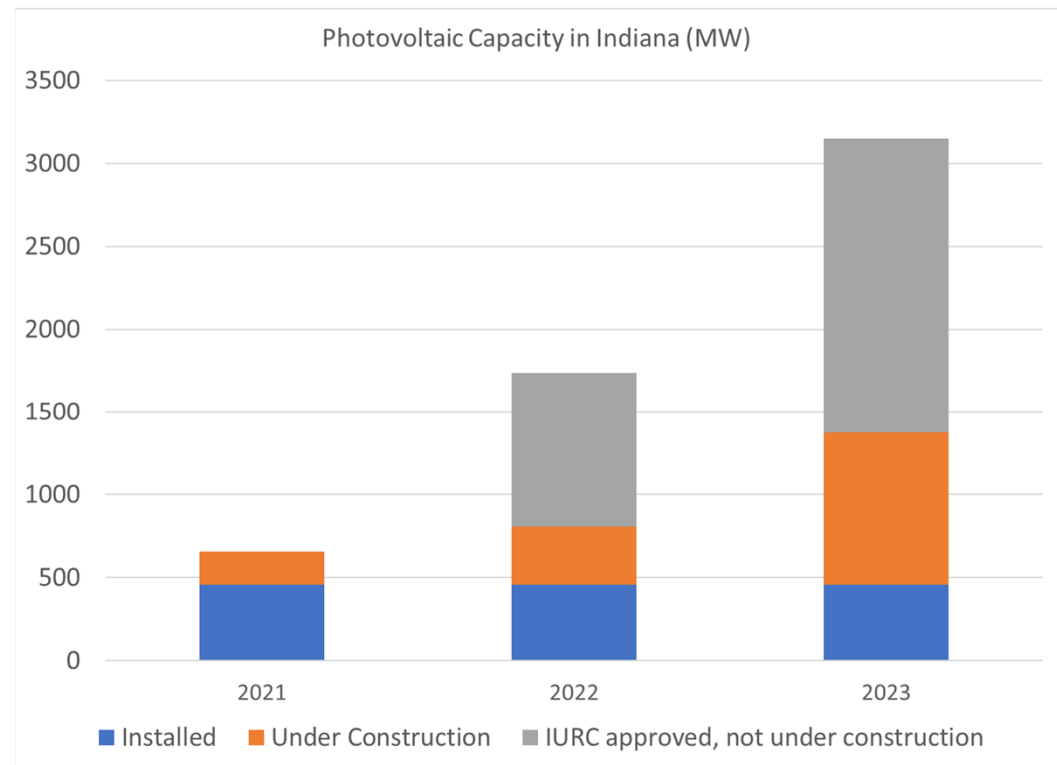
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Data sources: IURC, EIA

Indiana Photovoltaics Generating Capacity

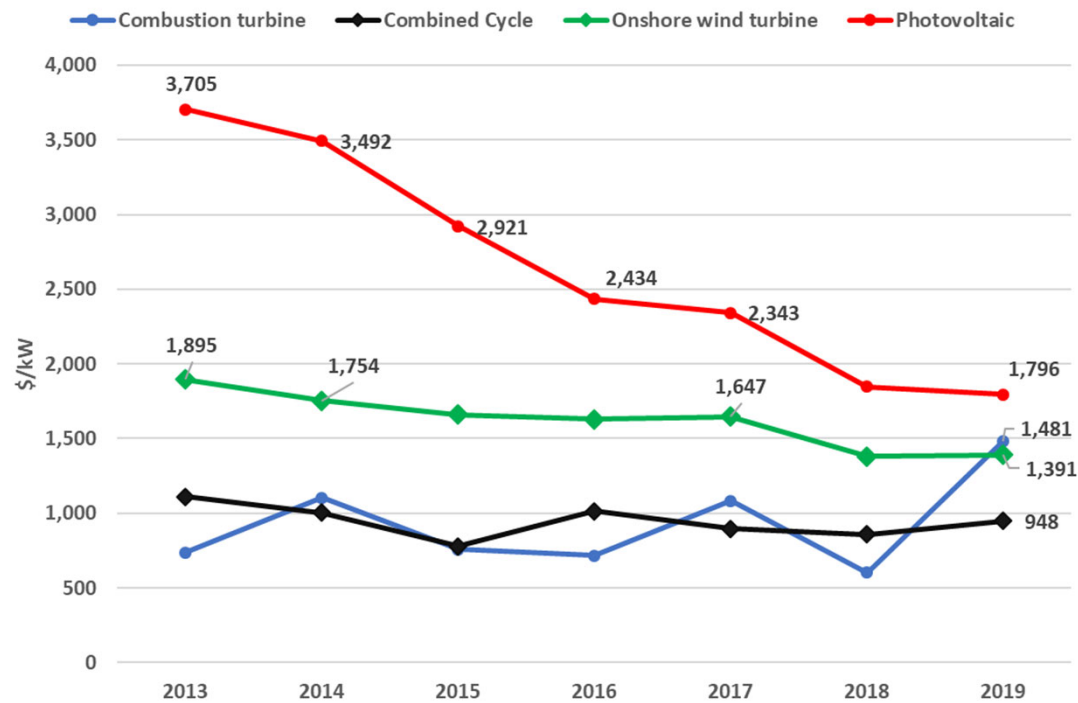
PV is expected to grow significantly

- An additional 650 MW of solar projects have cases pending at the IURC
- 17 solar farms of 100 MW or more are in some stage of development



Average Construction Costs on New Generation

Wind and solar costs continue to decrease



Organic Waste Biomass in Indiana

2nd largest source of renewable electricity

- Landfill gas
 - 21 landfills can generate 73 MW

- Animal waste biogas
 - 6 digesters produce about 120,000 MWh annually
 - 5 digesters produce compressed natural gas for transportation use

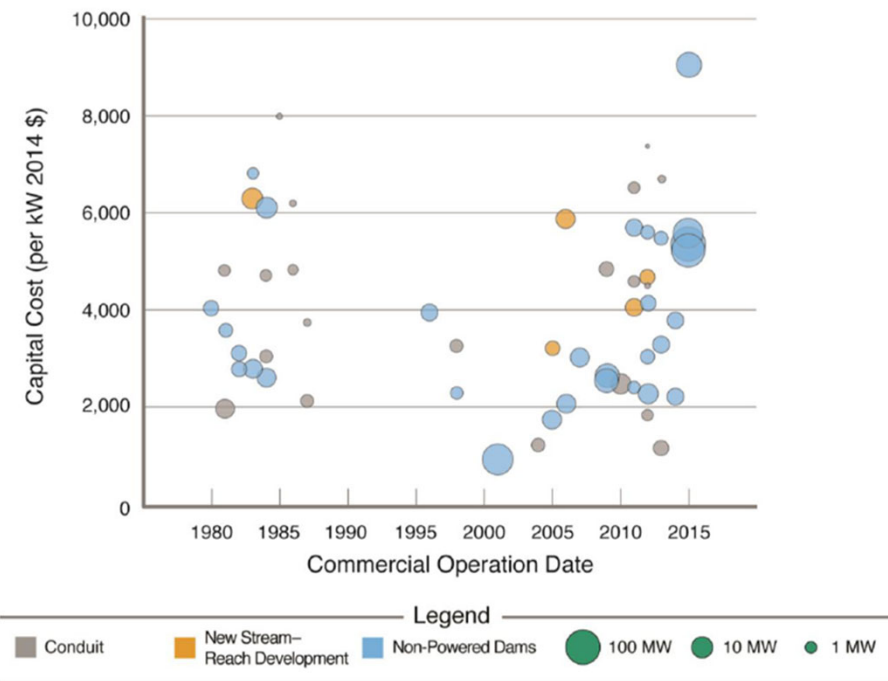
- Wastewater treatment
 - Cities of West Lafayette and Jasper

- Wood and wood waste

Hydroelectricity

Capital intensive; cost is very site specific

- 62 MW of existing hydropower in Indiana
- DOE estimates there is the potential for 454 MW of additional capacity at existing dams
 - 2/3 of that is at the Myers and Newburgh locks on the Ohio River



IMPACT OF PANDEMIC ON ELECTRIC LOADS

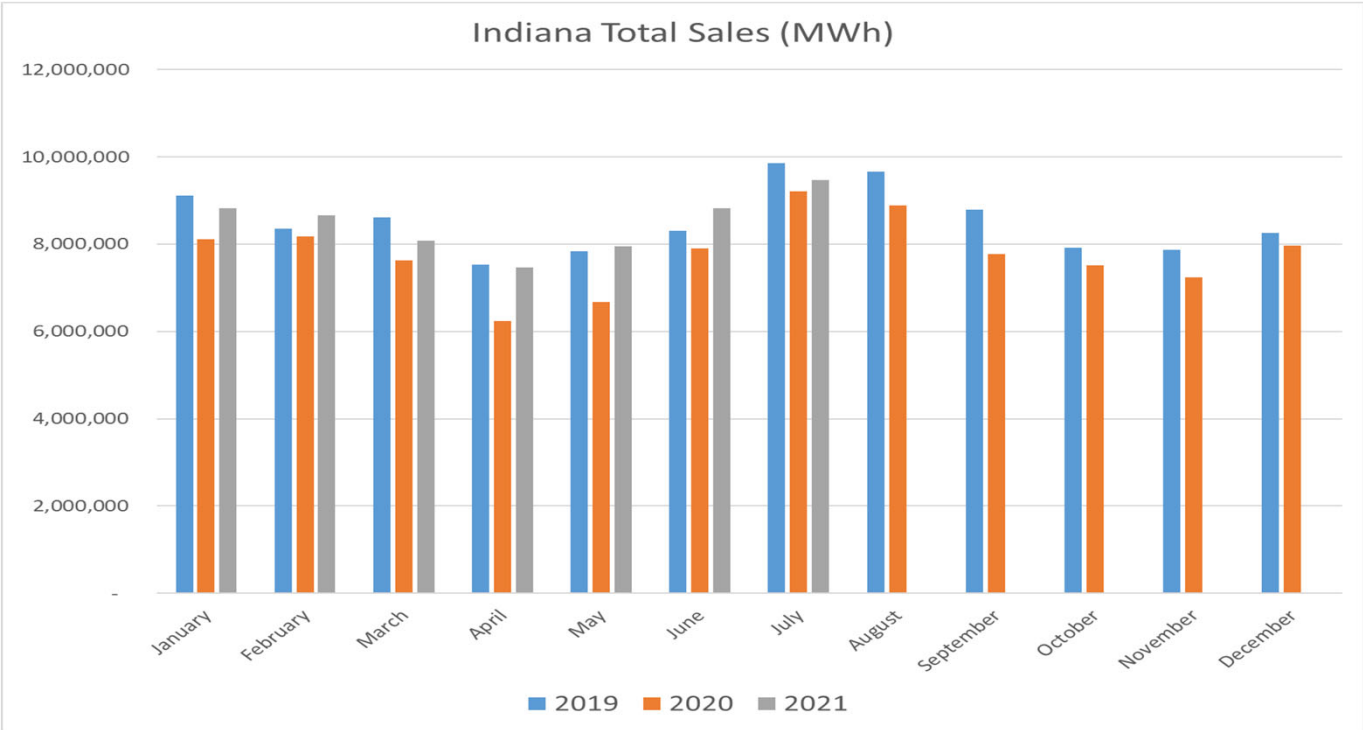
Indiana Electricity Sales

EIA monthly data for 2020 & 2021 is preliminary and subject to revision

- EIA has finalized annual sales data for 2020 but not monthly data
- There are some discrepancies between the two data sets for 2020, particularly in the industrial sector, where the preliminary monthly data is about 10% lower than the annual data
- While most of the differences are driven by economic and demographic factors, there are some differences due to weather, especially in the residential sector
- Monthly data is available through July 2021

Monthly Total Electricity Sales

Total sales are down 0.6% for first 7 months of 2021 vs. 2019

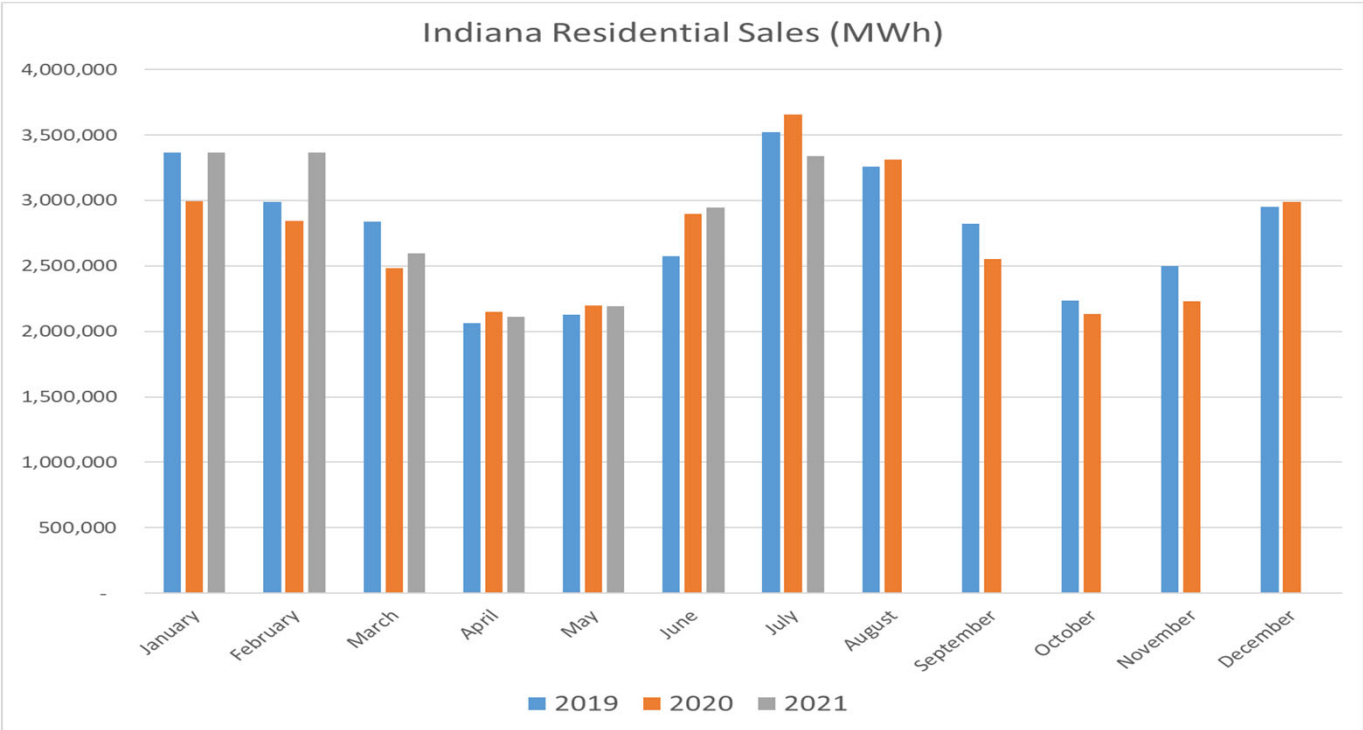


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Data source: EIA

Monthly Residential Electricity Sales

Residential sales are up 2.3% for first 7 months of 2021 vs. 2019

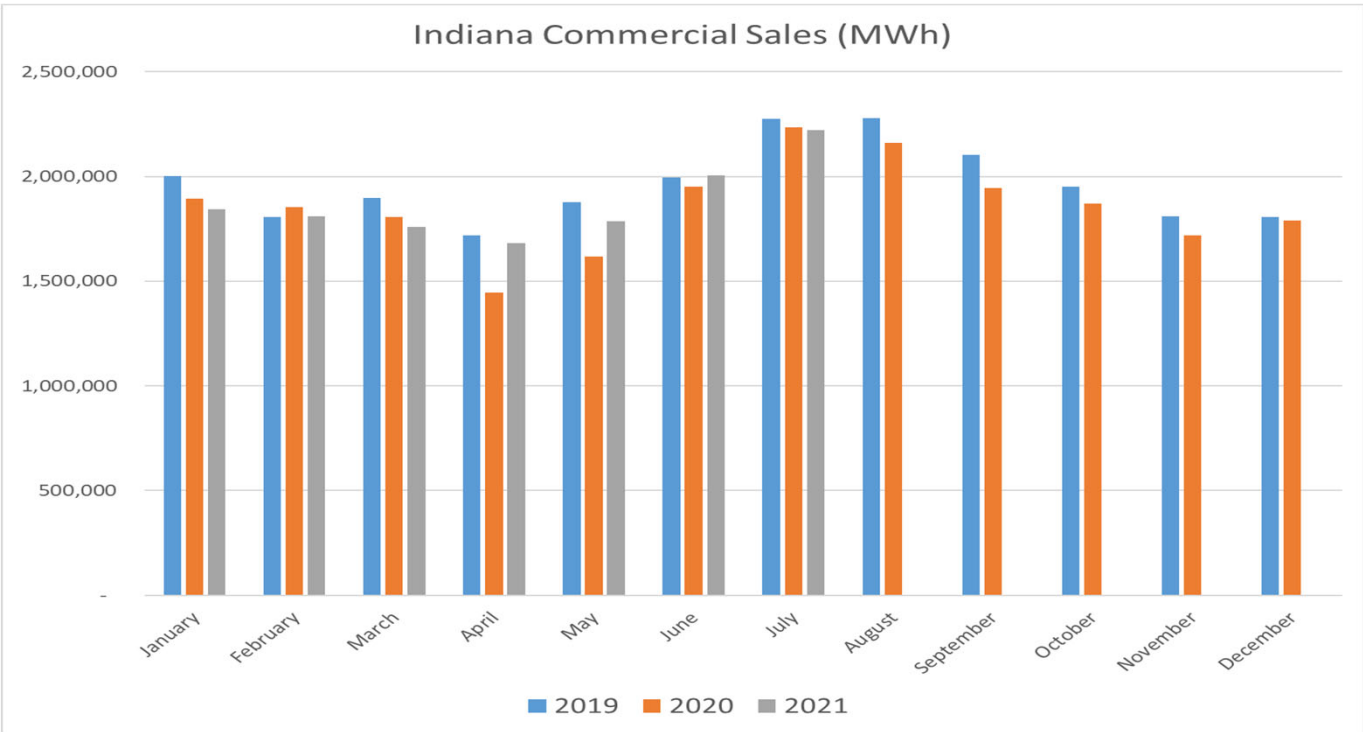


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Data source: EIA

Monthly Commercial Electricity Sales

Commercial sales are down 3.4% for first 7 months of 2021 vs. 2019

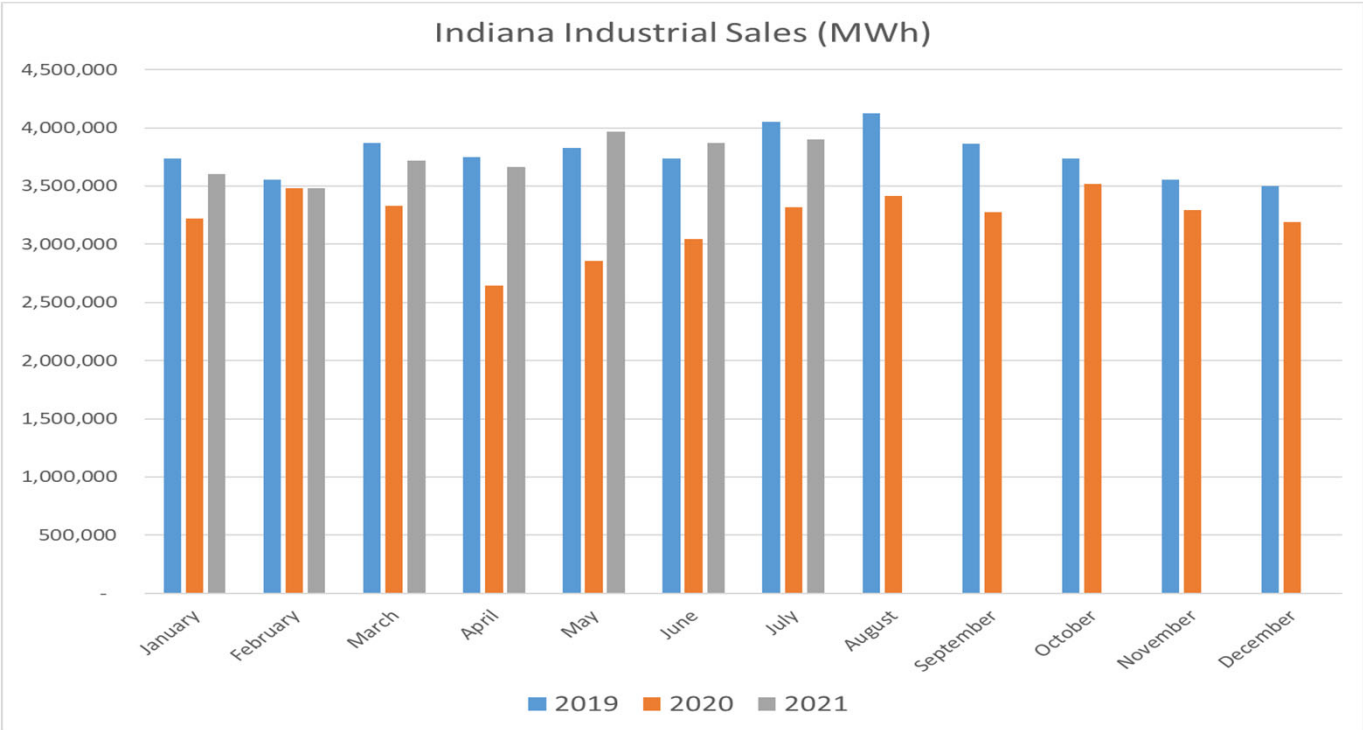


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Data source: EIA

Monthly Industrial Electricity Sales

Industrial sales are down 1.2% for first 7 months of 2021 vs. 2019



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Data source: EIA

The Economy

Economic activity is the largest determinant of electric load

- Real U.S. GDP exceeded pre-pandemic levels for the first time in the second quarter of 2021
- Real U.S. personal consumption expenditures exceeded pre-pandemic levels in the first quarter of 2021
- U.S. employment still lags the pre-pandemic level by roughly 5 million
- Total U.S. labor force (employed and unemployed) is about 3 million below the pre-pandemic level

THANK YOU

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