2020 State of the Markets Report
Key Findings

• COVID-19 shaped energy market fundamentals
• Wholesale electricity prices reached record lows in some regions
• Mostly solar, wind, and natural gas capacity additions
• Electricity markets expanded and were refined
• Reliability needs drove a large share of new transmission projects
• Natural gas prices were low across the country
• LNG exports pushed net exports to a new record in the second-half

• In April, electricity demand in U.S. Independent System Operators (ISOs) contracted between 4% and 10%
• New demand patterns emerged, requiring new demand forecasts
• Grid operators modified protocols to reduce the spread of COVID-19 to critical personnel and ensure continuity of operations
• Natural gas production associated with crude oil was expected to fall because of large drops in demand of oil products, but total natural gas production fell only 2%
Low Electricity Prices

Fig. 1 - Change in Annual Average Day-Ahead On-Peak Price from 2019 for Select Hubs

- Palo Verde*
- CAISO SP15
- CAISO NP15
- MISO Indiana Hub
- SPP North
- PJM Western Hub
- ISO-NE Internal Hub
- Into Southern*
- NYISO Zone J
- Mid-Columbia*
- ERCOT North Hub

Percent Change from 2019

Note: * denotes non-ISO trading hub

Source: S&P Global Market Intelligence

Fig. 2 - Annual Average Day-Ahead On-Peak Price at ISO and Non-ISO Pricing Nodes in 2020

Source: Hitachi Powergrids Velocity Suite

Average Day-Ahead On-Peak Price, $/MWh

15 20 30 40 50
Changes in Installed Generation Capacity

Fig. 3 - Capacity Additions and Retirements, 2020

Note: Includes Planned Dec. 2020 Capacity Changes.

Source: EIA-860M
Generation Fuel Mix

Fig. 4 – Generation Fuel Mix of U.S. Balancing Authorities, 2020

Source: EIA-930 and CAISO
Expansion and Refinement of Electricity Markets

• Expansion of Electricity Markets in the West
  • Two utilities joined CAISO-run Western Energy Imbalance Market
  • Commission approved SPP-administered Western Energy Imbalance Service

• Expansion and Refinement of Electricity Market Products
  • New ramping product in SPP
  • Fast-start pricing in PJM and SPP
  • Reserve markets in PJM and MISO
New Line-Related Transmission Projects

Fig. 5 – Transmission Projects With 2020 in Service Dates Within Order No. 1000 Planning Regions

Source: The Three C Group, LLC
Lower Natural Gas Prices Across the U.S.

Fig. 6 – Average 2020 Platts Gas Daily Index Prices at Major Hubs

Note: Region color is based on average price at nearest Staff-selected major hubs and may not exactly represent local delivered prices. Source: S&P Platts Gas Daily; Hitachi Powergrids Velocity Suite
Resilient Production Despite Lower Drilling Rig Count

Fig. 7 – U.S. Dry Natural Gas Production

Source: Energy Information Administration
Record Net Exports on LNG Growth

Fig. 8 – U.S. Natural Gas Trade and Net Exports

Source: Energy Information Administration
Other Topics Discussed in the Report

• Severe Weather Events
  • Heatwaves and Wildfires in the West
  • Hurricanes in the Gulf of Mexico

• Natural Gas Fundamentals
  • Demand and Power Burn
  • Storage Inventories

• Electricity Fundamentals
  • Electricity Demand
  • Capacity Markets