

# Preparing for Winter Energy Costs

Presented on November 29,  
2021



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# Winter 2021

## WHAT WENT WRONG EVENT-WIDE

- Largest outage cause was generator freezing caused by failure to winterize
  - Frozen instrumentation and turbine blade icing
- Second largest generator outage cause was natural gas fuel supply
  - In SPP, natural gas supply issues greatly exceeded gas generator freezing issues
- 357 individual gas-fired units had fuel supply issues
  - 185 units in ERCOT
  - 141 units in SPP
  - 31 units in MISO/MISO South



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# Winter 2021

## WHAT WENT WRONG EVENT-WIDE

- Natural gas/electric dependency
  - Most natural gas production facility loss due to weather-related power line outages or firm load shed
  - 60% of units affected by natural gas supply reductions had already had outages prior to firm load shed
- ERCOT firm load shed affected natural gas facilities
  - Failure to identify gas producing and processing facilities not identified as critical load
- Manual and automatic load shed coordination
  - Rotating outages were difficult to manage in ERCOT due to magnitude (10,000 to 20,000 MWs) and UFLS load shed circuits (configured for 25% of ERCOT's peak load)



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# Winter 2021

## EVENT-WIDE UNPLANNED GENERATOR OUTAGES

- Generator outages in ERCOT, SPP and MISO resulted in 1,045 individual generators experiencing an outage, derate or failure to start Feb.8 –20, 2021
- 4,124 total generator outages; 604 were natural-gas fired
- Generator outage cause for the total event area:
  - Freezing issues – 1,823 (44%)
  - Fuel issues – 1,293 (31%)
  - Mechanical/electrical – 870 (21%)
  - Transmission system – 61 (2%)
  - Other – 77 (2%)



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# Winter 2021 Conclusions

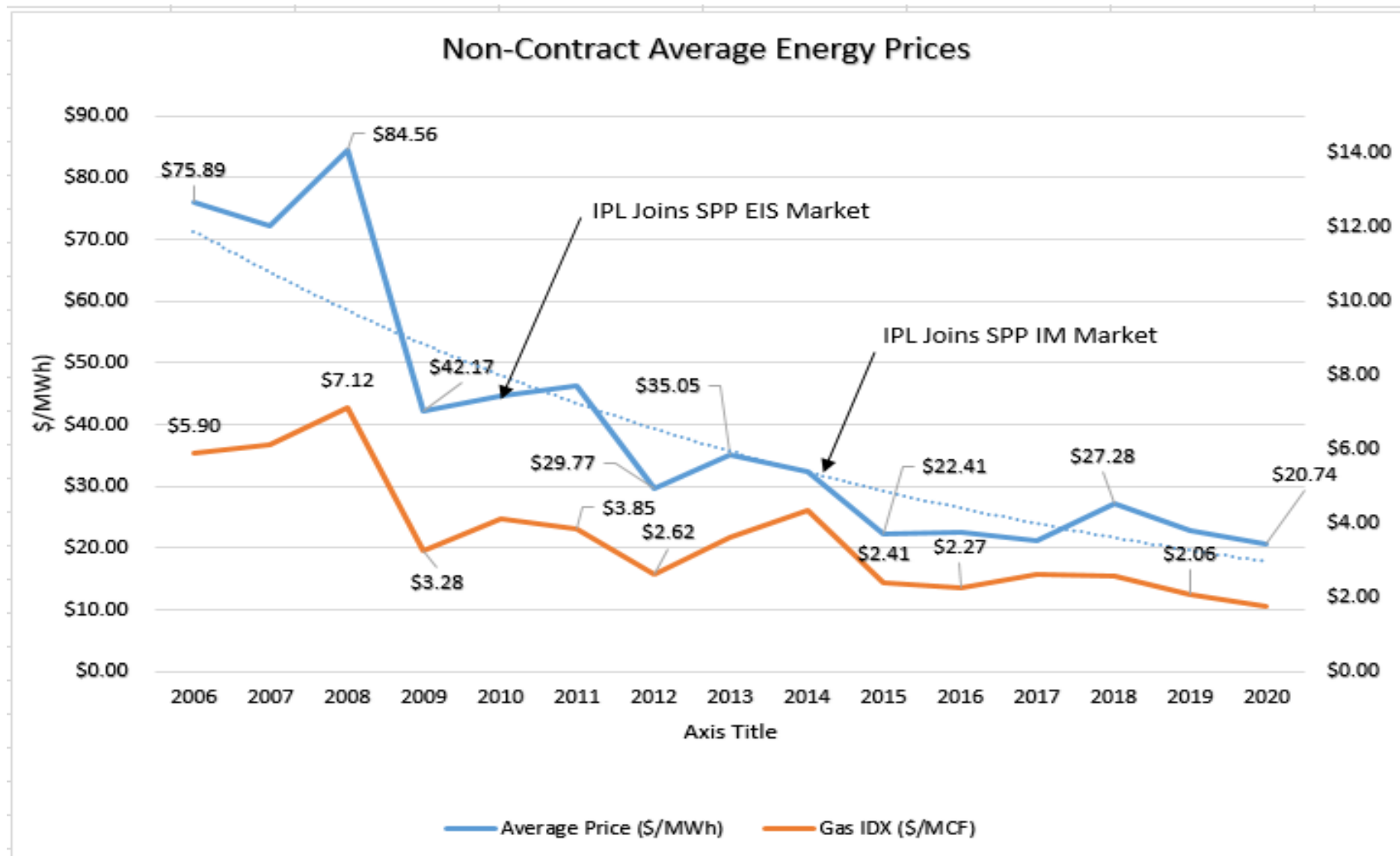
- Generator Availability
  - Coordinated Outages/Resource Adequacy
  - Winterization
  - Fuel Supplies
  - Market coordination/Market resource offers
- Diverse Portfolio
- Environmental Constraints
- Load Shedding Coordination



# Other Strategies

- Fuel contracts
  - Diverse fuel types and multiple suppliers
  - “Hedging” typically involves paying a premium price throughout the contract period, and also requires a minimum volume.....whether you use it or not.
- Wholesale electric contracts
  - SPP Integrated Market low cost advantage
  - All energy for Independence is purchased through SPPIM
  - Impact of Gas Index on contract offers





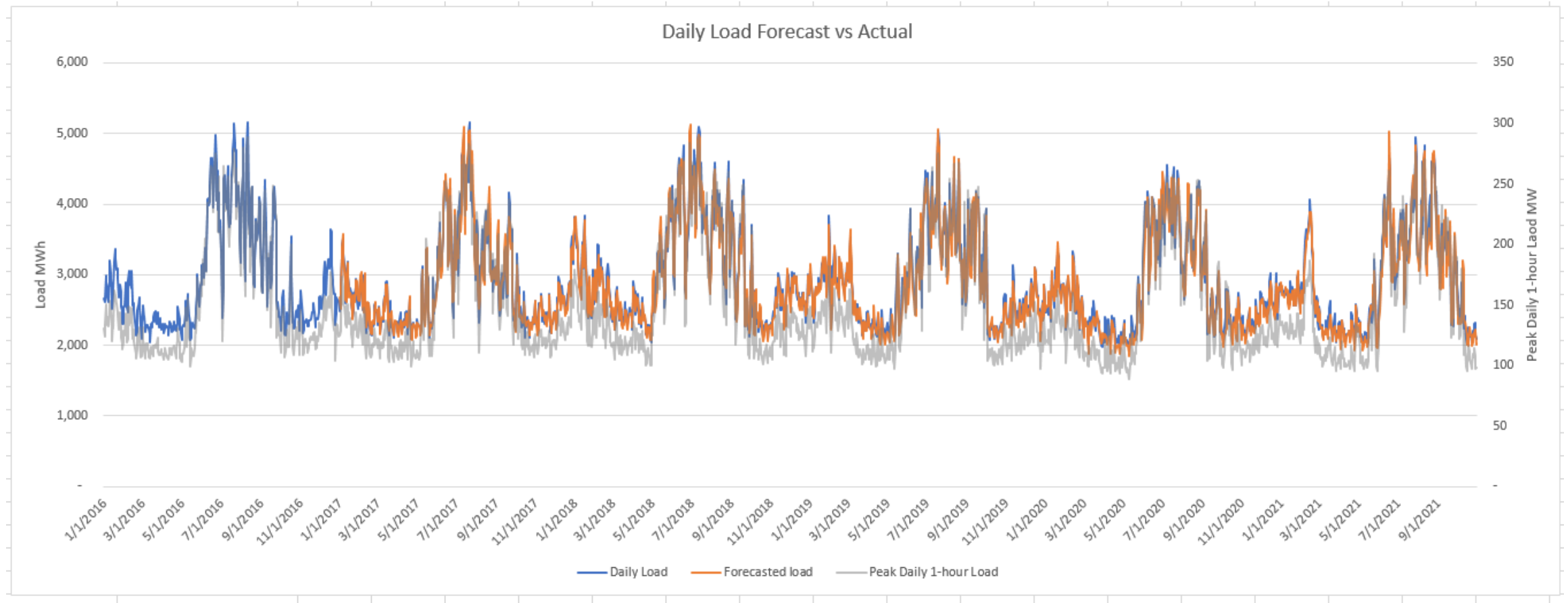
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# IPL Forecast vs Actual Demand



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# Energy costs are trending higher....

Projections say cost increases for households could range anywhere from 22% to 94% more, depending on the fuel used for heating and the severity of the winter temperatures. But the added expenditures for the 41% of U.S. households using electricity for heating are much less stark—these consumers will see only a 6% price increase on average. The projected fossil fuel price spikes are largely due to increased demand, limited supply, declining fuel stores, and shifting investment priorities in the face of climate change.

Forbes – Nov 15, 2021



# Tips to Save Energy

- Take advantage of heat from the sun
- Cover drafty windows
- Adjust the temperature
- Schedule service for your heating system
- Keep your fireplace damper closed
- Lower your water heating costs, reduce the temperature
- Use efficient holiday lighting options

American Public Power Association (APPA)

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# Additional Resources

- I-Share
- IRAP (Independence Rate Assistance Program)
- I-HELP (Home Energy Loan Program)
- LIHEAP (Low Income Home Energy Assistance Program)



Questions ?



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