SCE Renewable Resource Forecasting

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Forecasting

- Forecast Trials
  - Testing with multiple vendors
  - Partnership instrumentation sitting
    - CEC, SDSU LA Basin sky camera
    - CEC, Davis Tehachapi met instrument testing
    - AQMD LAX radiometer
  - New technology trials
- Blind Proof Of Concepts
  - Vendor to Vendor
  - In house to Vendor
- In House
  - Quality check of vendor supplied forecasts
  - Ramping up weather forecast capabilities
  - Reorganizing short term forecasting group
- CAISO PIRP/EIRP forecast use

Forecasting Trials

- Important Site Inputs
  - Long/Lat details of resource
  - Inverter specifications (solar)
  - One line specifications
  - Panel specifications and Configuration (solar)
  - Topology vector for shadowing (solar)
  - Availability and Outage information
  - Panel cleaning and rain event notification (solar)
  - Icing notification
  - Curtailment awareness in models
  - On Site and Off Site Met data
  - Real time MW observations
- Important Weather Site Inputs
  - National weather service
  - Satellite Image service
  - Inversion weather service
- Model Results
  - Analog performed better on inversion days (solar)
  - MOS performed better on non inversion days (solar)
  - Multiple Analog runs gave ability to average
  - Typical Time lag on ramp events

Conclusions

- Quality met instrumentation is necessary
- Instrumentation up keep is a priority
- Cloud tracking necessary in real time (solar)
- Relationship understanding between weather services data is lacking
- Decision support different for solar than wind
- Solar ramp events have different drivers than wind
- Proof Of Concepts and Trials hard to gauge (long model training times)
- Site data critical for relationship understanding
- Met data network as important for solar as wind
- New technologies, Model enhancements, Met network testing is necessary