U.S. DEPARTMENT OF ENERGY | Office of ENERGY EFFICIENCY & RENEWABLE ENERGY

SOLAR ENERGY TECHNOLOGIES OFFICE

Solar Forecasting: DOE Initiatives

ESIG Meteorology and Energy Markets Workshop

June 2021

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DOE Initiatives – A Brief Update

- Solar Forecasting II projects are wrapping up by Dec ’21
- Cross-evaluation of model performance under way in 10 CONUS locations
  - 4 teams providing day-ahead hindcasts for entire 2018
  - 3 teams providing day-ahead forecasts for Aug-Oct 2021
- Solar Forecast Arbiter exploring operational trials with several end-users
- Solar Forecasting Workshop completed in May ’21
- Three ML-based, net-load forecasting projects just started

Solar Forecasting Workshop – May 5-6, 2021

- Keynotes from Dave Turner (NOAA), Congcong Wang (MISO), and Justin Sharp (Sharply Focused)
- Panel presentations and discussion with 5 ISOs (CAISO, ERCOT, PJM, ISO-NE, NYISO)
- Presentations from SF2 awardees
- Demonstration of Solar Forecast Arbiter
- Two break-out sessions for informal discussions

Break-out Room Takeaways

Forecast Models

- Support sub-grid scale cloud research
- Support solar forecasting R&D on all timescales
- Better awareness of NWS/NOAA operational models to support integration of research models

Solar-related Use Cases

- Support forecasting of behind-the-meter (BTM) solar
- Focus on solar-specific impact of extreme weather (including regional conditions such as smoke and snow)

Data & Sensors

- Need for high-quality and ancillary data
- (Lack of) observability of BTM is still a key issue
- Assist with access to data (including BTM data)

Tech Transfer

- Ensure engagement between R&D, vendor, and end-user
- Solar Forecast Arbiter needs wider outreach
- Demonstration to operators is key for adoption

Questions?

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