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Planned Improvements

For the *2019 IEPR* Forecast and Beyond



Nick Fugate
July 10, 2018
California Energy Commission



Residential End Use Model

- Residential model recoding effort provides an opportunity for enhancements
- Staff has retained expert consultation to review the model and make recommendations regarding:
 - Geographic and end-use granularity that can be achieved given data availability
 - Characterization of building/appliance standards
 - Methods to account for behavioral elements and improve model calibration



Load Shapes

- Investor-owned utility load shape contract (ERDD) work underway
 - End-use profiles by forecast zone, sector, building/industry type
 - Generation profiles for behind-the-meter PV systems
 - Savings profiles for AAEE measure categories
 - Charging profiles for light-duty electric vehicles
- Expand analysis to remaining forecast zones
- Refreshed profiles to be incorporated into an updated peak model (HELM 2.0)



Hourly Forecasting

- Expand hourly analysis beyond IOU TAC areas
 - Estimate model for additional regions
 - Model individual customer sectors separately
 - Additional work will leverage AMI data
- Incorporate climate change impacts
 - Scripps to estimate hourly changes to temperature



Efficiency

- Reconsider “committed” efficiency programs in a rolling portfolio framework
- Update additional achievable energy efficiency (AAEE)
 - Upcoming CPUC Potential and Goals study will inform IOU AAEE update
 - Energy Commission contract with Navigant to produce POU AAEE scenarios
 - Savings estimates for non-utility programs reasonably expected to occur
 - AAEE for LSE’s outside the CAISO control area



Other Enhancements

- Incorporate recent Title 24 building standard impacts (including rooftop PV) into the baseline forecast
- Improve estimates of behind-the-meter storage impacts
- Incorporate estimates of load growth due to cannabis cultivation
- New surveys underway
 - Vehicle Survey
 - Residential Appliance Saturation Study (RASS)
 - Commercial End Use Survey (CEUS)



Process Alignment

- IOU Distribution Resource Planning
 - D.18-04-002 establishes the IEPR forecast as the basis for distributed energy resource (DER) growth scenarios
 - Distribution Forecast Working Group (DFWG)
- Joint Agency Steering Committee (JASC) priorities
 - Separately vetted and adopted year-ahead forecast could alleviate RA and IRP timing issues
 - ✓ Would require additional resources
 - ✓ Creates space for misalignment of forecast assumptions
 - ✓ Potentially complicated by multi-year RA process
 - ✓ Schedule changes in other proceedings might reduce some issues
 - CPUC and CAISO request monthly peak loads be adopted as part of the IEPR forecast