# DISTRIBUTION FORECASTING WORKING GROUP

Meeting 4 Objectives

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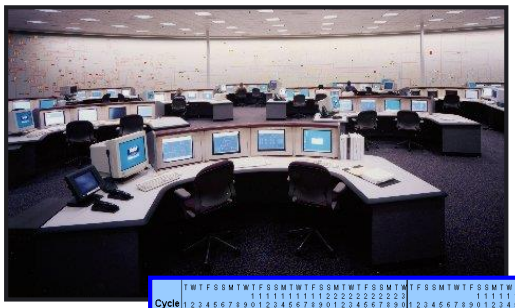
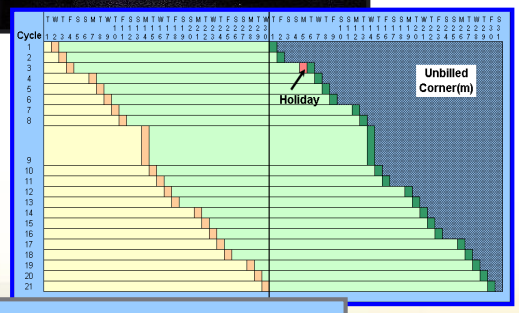
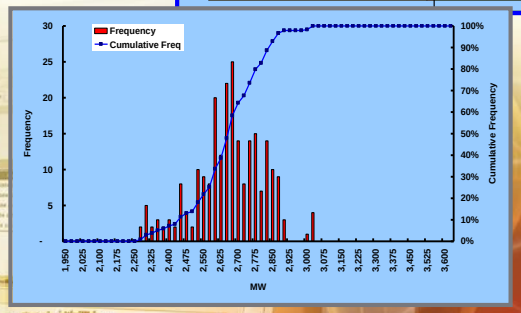
Itron
5/30/2018

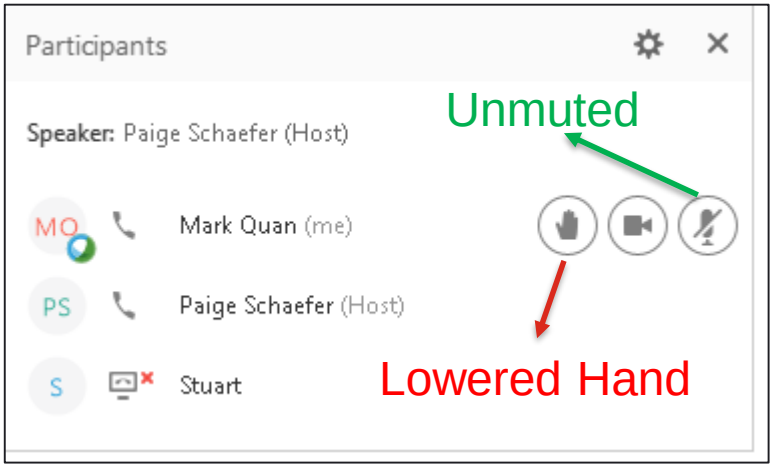


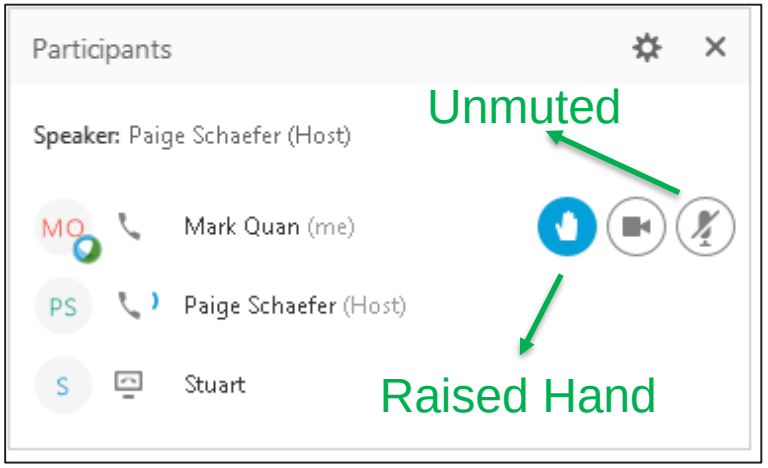


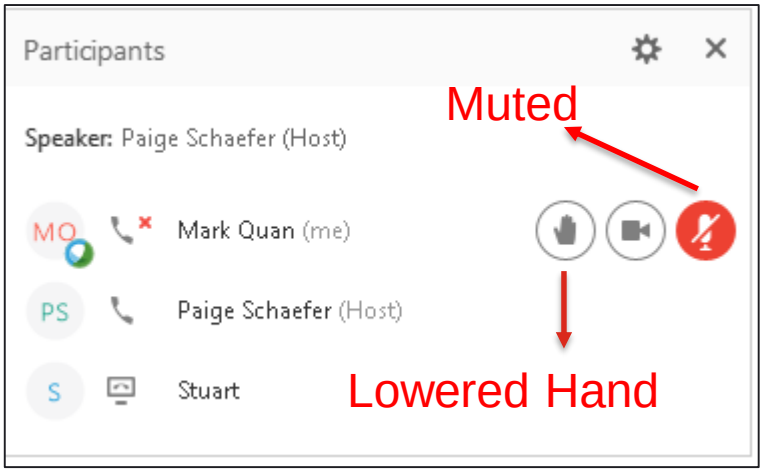



# MEETING LOGISTICS – WEBEX FEATURES

**Participant Window**




- All participants will be muted.
- When you have comment/question, raise your hand.
- When called upon, unmute and speak.
- Mute and lower hand when compete.
- Meeting will be recorded.

# OBJECTIVES

1. What is the estimated magnitude of uncertainty in circuit level forecasts and what are the implications for distribution planning and capacity for evaluation and feedback to mitigate uncertainties?
   - Meeting 1: Developed the list of uncertainties
   - Meeting 2: Qualified the magnitude for PV, EV, and AAEE
   - Meeting 3: Qualified the magnitude for ES
   - Meeting 4: Polling on EV; Estimate the magnitude for LMDR

2. Are there data sets that could improve the IOUs disaggregation of Distributed Energy Resources (DER) growth to the circuit level?
   - Meeting 1: DMV Data
   - Meeting 2: CA DG Stats Database, 2017 NREL Study, MV&E Studies
   - Meeting 3: SGIP
   - Meeting 4: LMDR data sources and all data source discussion

# OBJECTIVES

3. What are the disaggregation methods of system level load and DER forecasts to the circuit level, what are the shortcomings and possible improvements?
   Meeting 1: Looked at last years method for DER disaggregation
   Meeting 2: No dissent proposed methods for PV and EV
   Meeting 3: No dissent on AAE.
   Meeting 4: ES Polling, LMDR discussion/polling, and Load disaggregation
   *Note: Load Disaggregation is for educational purposes only.*

4. What are the best data sources for disaggregation of load and DER adoption, as well as DER operational profiles?
   Meeting 2: See Objective 2
   Meeting 3: See Objective 2
   Meeting 4: All Data Source Discussion Review

# OBJECTIVES

5. What dispersion methods should be used to allocate circuit-level forecasts along a circuit?
   Meeting 4: IOUs will discuss dispersion methods.
   *Note: Load Disaggregation is for educational purposes only.*

6. How will the IOUs modify future forecasts based on evaluation of actual results in forecasts?
   Meeting 2: Reviewed PV, EV, and AAEE method updates and corrections.
   Meeting 3: Reviewed ES method updates and corrections
   Meeting 4: Understand next year's update for LMDR and reasons for corrections

7. Does the DER disaggregation align with California Energy Commission (CEC) and California Independent System Operator's forecasting assumptions
   Meeting 3: Interactions with CEC on PV, ES, and AAEE
   Meeting 4: Finish EV discussion

# MEETING 4 OBJECTIVES

Topics will be discussed sequentially. Any remaining topics will be added to the Meeting 5 agenda.

- ES Polling
- CEC EV forecast Alignment Polling
- LMDR best practice discussion and polling
- Load Growth Disaggregation – information only
- Dispersion along a circuit – information only
- Data sources – finalize list
- Uncertainty grid – finalize qualifications

# ES METHOD & DATA - POLLING

## Model (Near Term):

- **SDG&E & SCE** are using a simple allocation method. The allocation for residential ES based on new PV adoption and commercial (and industrial) ES is based on load factor or peak.

- **PG&E**'s adjusts load for know ES projects and then allocates the remaining ES proportional to load.

## Additional Data Sources:

- **SGIP**.
- **Interconnection Queue.**
- **IRP Guidance.**
- **PV Adoption Data.**

# ES UNCERTAINTY - POLLING

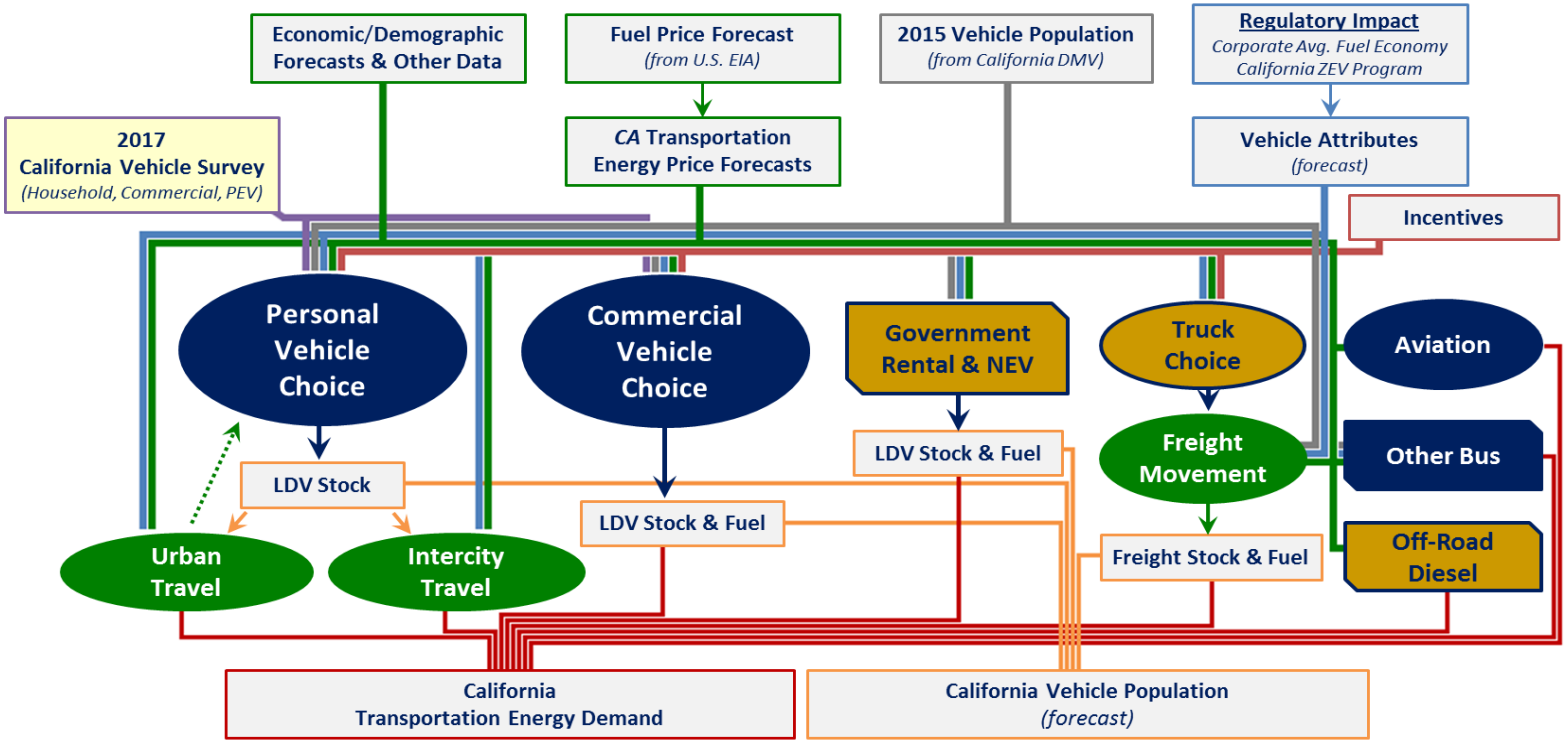
**Uncertainty**

- **IEPR**: **High**. ES is a new component of the IEPR. It is based on a simple trend analysis and not an adoption model.
- **Model**: **High**. The ES market is in very early adoption phase driven by public policy. The lack of adoption data makes model fitting and adoption modeling difficult at best.
- **Profiles**. **High**. Operation profiles vary for each customer based on the customer's objectives and utility rates. At best, IOUs may attempt to reverse-engineer operations when more data becomes available.
- **Near-Term Lumpiness**. **Low**. Near-term adoption may be managed for known customers based on the interconnect queue.
- **Long-Term Lumpiness**. **High**. The timing and location of large projects are impossible to forecast accurately.

- **Impact**. **Low**. Importance relative to other DERs.
- **Risk**. **Low**. Guides the relative level of attention that different technologies receive in the planning process.

# Transportation Models

## Key Inputs & Outputs



# LOGISTICS

**Document Website:**

http://capabilities.itron.com/DFWG/index.htm

**Meetings:**
All meetings, except Meeting 4, are set from 9:30 AM to 3:30 PM.

- Meeting 1: 4/18/18 (PG&E, Room 1876)
- Meeting 2: 5/2/18 (CPUC Golden Gate Room)
- Meeting 3: 5/16/18 (PG&E, Room 938 A/B)
- Meeting 4: 5/30/18 (Webinar)
- Meeting 5: 6/13/18 (CPUC Golden Gate Room)

**Facilitator Contact Information**

- Mark Quan (mark.quan@itron.com)
- Stuart McMenamin (stuart.mcmenamin@itron.com)