

# **CBECC-CUAC Data Source Guide**

## **1. MODELING ENGINE**

- Core Engine: CBECC-COM 2016 or later (Title 24 simulation tool)
- Simulation Platform: EnergyPlus v8.x or v9.x under the hood
- Developer: Clean Power Research, with California Energy Commission support

## **2. Primary Data Sources**

- Climate Data: CEC Weather Files - Based on TMY3 files for CA climate zones
- Utility Rate Schedules: CEC & Utility Tariffs - Includes TOU and tiered rates
- Appliance Energy Use: DOE EIA RECS, LBNL, DEER - Defines appliance/lighting use
- Occupant Behavior: RECS, CBECS, CARB - Plug loads, DHW use, schedules
- Solar Production: CPR PVWatts/EPW + NREL SAM - Hourly PV/battery generation
- Water Heating Draw: IAPMO, CBECC-Res - Typical draw patterns by unit
- DHW Piping/Recirc: Title 24 Plumbing Calcs - Pipe loss and pump energy
- Ventilation & HVAC: Title 24 ACM Appendix - Schedules and fan runtimes
- Envelope Construction: Title 24 Baseline - Prescriptive construction defaults

## **3. CUAC-Specific Modeling Features**

- Metering: Differentiates tenant- vs. owner-paid energy
- End Uses: Separates HVAC, DHW, lighting, plug loads
- Solar Offsets: Includes PV/battery offset to tenant energy use
- Load Shifting: Captures TOU rate benefits where applicable
- Submetering: Only tenant-paid loads included in UA estimate
- Rate Mapping: Applies real tariffs to modeled energy use

## **4. Key Inputs from Project Team**

- ZIP Code & Climate Zone
- Unit count by bedroom type
- Envelope/system specs (HVAC, DHW, etc.)
- PV and battery systems presence
- Metering configuration
- Appliance and plug load selections
- Special occupancy types (e.g., senior housing)

## **5. Outputs**

Produces annual energy use by end use, mapped to local utility rates to estimate tenant-paid utility costs.

Metrics:

- Heating, Cooling, DHW, Lighting, Plug Loads
- Refrigeration and Appliances
- PV/Battery Savings
- Final Utility Allowance Estimate (\$/month)

**Appendix: Data Authorities**

- CEC: Climate zones, weather data, compliance models
- CPR: PV modeling, tariff mapping, CUAC implementation
- DOE RECS: Occupant behavior and appliance use
- IAPMO: Water heating draw profiles
- LBNL: Lighting and plug load profiles
- CHPC CUAC Guide: Policy documentation and modeling principles