

## CBECC-Res 2022.0.5 Research Version Release Notes April 21, 2021

Significant changes since CBECC-Res 2022.0.1 (Dec-2019):

- Final 2022 TDV multipliers
- Substantial changes to the Standard Design which now varies by climate zone and includes either heat pump space or water heating
- Updates to IAQ/HRV modeling and new specification of supply air filter/inlet & HRV recovery core accessibility impacting compliance calculations
- Proposed & Standard Efficiency EDR calcs modified to reference only Compliance end uses & credits (excluding lighting, appliances, etc.)
- Executables updated to latest (2019) version of development platform, including all third party libraries
- Calculation and results dialog display of PV kWh generated, exported & % exported
- Specification and analysis of dual-fuel heat pumps
- Restructuring of individual and central HPWH inputs
- Northwest Energy Efficiency Alliance (NEEA) HPWH Advanced Water Heating Specification program selection expanded to 60 new brand/model options (including Tier 4) and addition of new Commercial HPWH Product selections
- Multifamily Central Heat Pump Water Heater (HPWH) - several configurations, large compressor types, loop tank options and tank locations.
- Solar thermal water heating credit internally calculated by CBECC
- Solar Thermal PV Offset Credit - option to apply a portion of the multifamily project's PV generation as a credit toward energy efficiency TDV to offset the solar thermal system in the standard design model.
- Support for solar thermal systems certified by International Code Council-Solar Rating and Certification Corporation Solar Thermal Collector Certification (ICC-SRCC OG-100) and Solar Water Heater Certification (ICC-SRCC OG-300) programs.
- Photovoltaic (PV)
  - California Flexible Installation (CFI) now includes CFI-2 (installation from 105-300 degrees)
  - Solar shading effects accounted for using Solar Access input (EDR tab)
  - PV exception (AB 178) for declared emergency areas (Exception 6)
- Addition of new HVAC equipment types including packaged terminal heat pump and variants
- VCHP (variable capacity heat pump) compliance option credit
- Fix for HP equipment where combination of high HSPF and low Cap17 (multi-speed units) caused simulation error
- Access to battery storage charge and discharge rates. TOU and Advanced Battery Controls not updated for 2022 TDV so do not use.
- Radiant barrier in a cathedral roof
- A new exterior wall finish called "all other siding"
- Whole House Fan corrections