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July 3, 2023

Integrated Policy Report Narrative, 2023 - East Bay Community Energy

General:

Rate Categories:

The following table shows the categories into which we sorted the different rates:

Class	Rate Code
Agriculture	AG1A, AG1B, AG4A, AG4B, AG5A, AG5B, AG5C, AGA1, AGA2, AGB, AGC, AGVB
Small / Medium Commercial	A1, A10P, A10PX, A10S, A10SX, A10TX, A15, A1X, A6, B1, B10P, B10S, B10T, B6, BEV1
Large Commercial	B19P, B19PR, B19S, B19SR, B19T, B20P, B20S, B20SR, B20T, BEV2S, E19P, E19PR, E19S, E19SR, E20P, E20PR, E20S, E20SR, E20T, E37S
Residential	E1, E6, ETOUA, ETOUB, ETOUC, ETOUD, EV2, EVA, EVB
Streetlighting	LS
TCU	TC1

Form 1.1b and 1.3, Demand Forecasts Method and Models:

Historical Data (1/2021-6/2023)

To the extent historical data was available at the time this filing was assembled, EBCE used calibrated customer-level interval data from our internal database, without adjustments. Due to the slight lag in the availability of interval data to EBCE, actual data was available through roughly mid-June when this filing was assembled.

Current Year Forecast (6/2023-12/2023)

Energy Forecast

For the current year forecast, we take our current year customer enrollment projections without adjustment, which reflects the most up to date opt-outs of EBCE service and departures to Direct Access. Where available, we estimate each customer's load based on historical usage, differentiated by month-hour and day type. For those customers for whom we do not have individual data, we estimate their usage based on rate-specific hourly load profiles for each day of the week and month of the year, yielding 84 distinct load profiles per rate. These load profiles are generated from 4 years' worth of historical data.

Demand Forecast

Because our energy forecast implicitly assumes average weather for all month-hour and date type combinations, we need to apply an adjustment to account for the impact of varying temperatures on our peak load. We estimate the impact of deviations from the average weather assumed in our forecast on load by modeling historical forecast errors (actual load – forecast load) as a function of the actual weather's deviation from the average temperature data used to generate the forecast. This gives us a

scalar that can be applied to the load in any given hour to reflect expected consumption under the average four-year maximum temperature for that month (a 1-in-2 estimate of our peak load).

The demand forecast (and associated coincident peak forecast) is calculated at the wholesale level, with losses applied on an hourly basis corresponding to the voltage service level applicable to each rate class.

Long-Term Forecast (2024-2034)

Energy Forecast

EBCE does not generally produce a detailed long-term forecast. Estimates of long-term energy and demand growth are produced by making some high-level assumptions about electrification and energy efficiency, specifically related to electric vehicle deployment, and building electrification. Starting in 2023, we assume a long-term embedded annual growth rate of 0.5% for energy, subject to some slight year-to-year variation due to (a) leap years (+0.3% roughly) and (b) the distribution of high-load / low-load hours across the different months. This growth rate *does not* apply to the incremental loads from electrification or reductions from energy efficiency.

Demand Forecast

The long-term demand forecast is estimated based on the relationship between current energy use and estimated peaks, and the assumption that intelligent electric vehicle charging, and smart electrification programs will limit the effect of additional load from those sources on the coincident system peak.

For the years from 2024 to 2034, the load increases from *long-term embedded growth* are assumed to simply scale the entire load shape upward, so each 1% increase in energy is assumed to increase the coincident system peak by 1%. In contrast, we assume that the peak impacts *due to electrification* will be mitigated by intelligent program deployment, so each 1% increase in energy consumption from electrification and building codes is assumed to increase the peak load by only 0.5%. All these adjustments are applied on the sectoral level throughout the analysis.

Form 3:

The sections and assumptions described below are reported on Form 3 but the forecasts for energy and peak demand resulting from the below are included on Forms 1.1b and 1.3.

Solar (PV)

Energy impacts from the forecasts of solar installations in the EBCE service area are reported for residential and commercial segments based on recent territory trends as reported through PG&Es interconnection reports and EBCE data.

Residential Net Energy Metering (NEM): EBCE is currently forecasting NEM growth of 5% per year (a reduction from the 110% average growth rate in installations per year over the last five years based on the impacts of Net Billing Tariff on installation rates) in the service area and assumes that each new PV installation will continue to average 5kW and provide 7.5MWh of annual load reduction to the household.

Commercial **Net Energy Metering (NEM):** EBCE is currently forecasting flat commercial NEM growth, consistent with recent trends. EBCE assumes that new commercial PV installations will continue to average 127kW and provide 190.5MWh of annual load reduction to the Commercial Facility.

Energy Efficiency

EBCE estimates energy efficiency impacts based on the $14.5M CPUC approved and funded EE Program that EBCE is now launching and will fund for the next 3 years. The Program will deliver both Energy Efficiency savings and Commercial Electrification (note below). The program will enroll 34 large commercial and industrial customer accounts over 3 years to participate in both Strategic Energy management programs with an EUL of 3 years. Program savings will average 40 GWh/yr. EBCE expects to continue running this program after the first 3 year program cycle concludes.

Electric Vehicles (EV)

EBCE forecasts light-duty vehicle adoption continues to grow at the average growth in EV sales in both Alameda (~20%/yr) and San Joaquin Counties (~8%/yr) over the last 5 year until 2030, transitioning to 10% increase per year until EV sales reach 100% of vehicle sales in 2034 (one year prior to Caliornia's mandated phase-out of conventional fuel vehicles). EBCE assumes Battery Electric Vehicles add 4MWh of load per annum and Plug in Hybrid vehicles add 1MWh of load per annum to EBCEs load.

Medium and Heavy Duty Electric Vehicles (M/H Duty EV)

EBCE expects slow but steady growth in M/H Duty EVs in the early years of the IEPR based on very low starting point in 2023 (39 registered vehicles). Vehicle growth will accelerate with ACF and other regulations towards the end of the decade. EBCE expects over 10k registrations by 2034 with an average annual usage of 20GWh/yr/ vehicle.

Building Electrification

EBCE forecasts increased energy in the residential sector of 2 MWh annually per home from partial building electrification. EBCE estimates slow growth in building electrification in 2024-2026 until 2027 when the BAAQMD rules on heat pump water heaters will accelerate electrification to 2000 units per year, growing by an additional 2000 units each year.

EBCE's Energy Efficiency Program includes commercial and industrial electrification projects. EBCE assumes 2GWh/year in new commercial electrification projects from this program with an EUL of 10 years.