CEC 2024 IEPR DAWG Workshop
SDG&E Residential Solar &
Econ/Demographic Overview

August 21, 2024

Load Research Residential Solar Sample

Since 2010, SDG&E has installed a second, non-billable smart meter on a sample of residential homes with PV systems
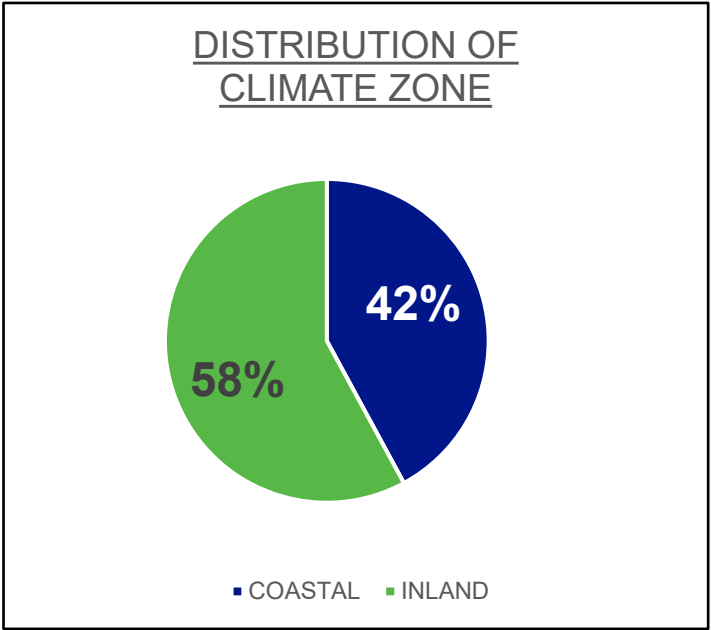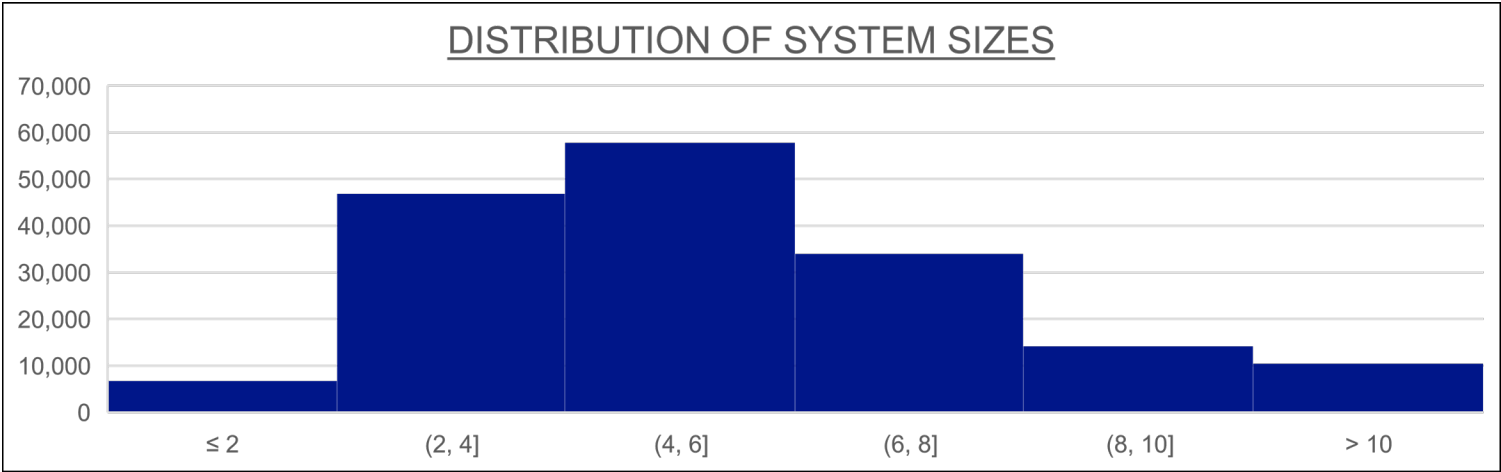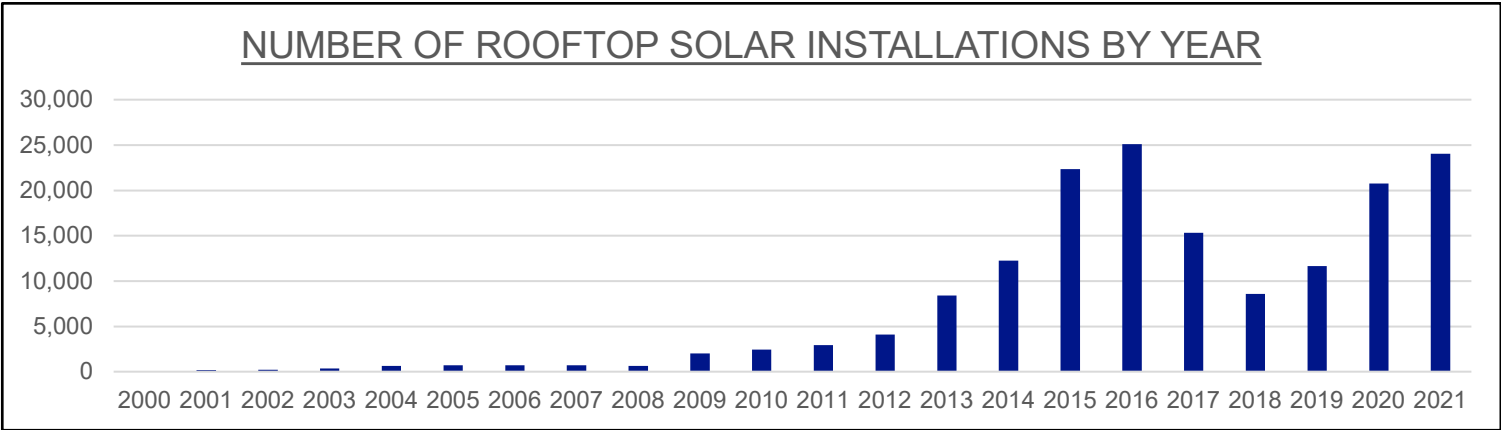
- 300-500 sites across our service territory

- Sample is supplemented every 3-4 years

- Using smart meters allows for billing quality data to flow through existing data systems

- Data is weighted by climate zone, system size and age of system

- End-product is average hourly Capacity Factors for service territory

Uses include:

- Input to Dynamic Load Profile Model (PUC Mandated)

- Long-Term Forecasting (Resource Adequacy)

- Short-Term Forecasting and Procurement

- Strategic Analysis
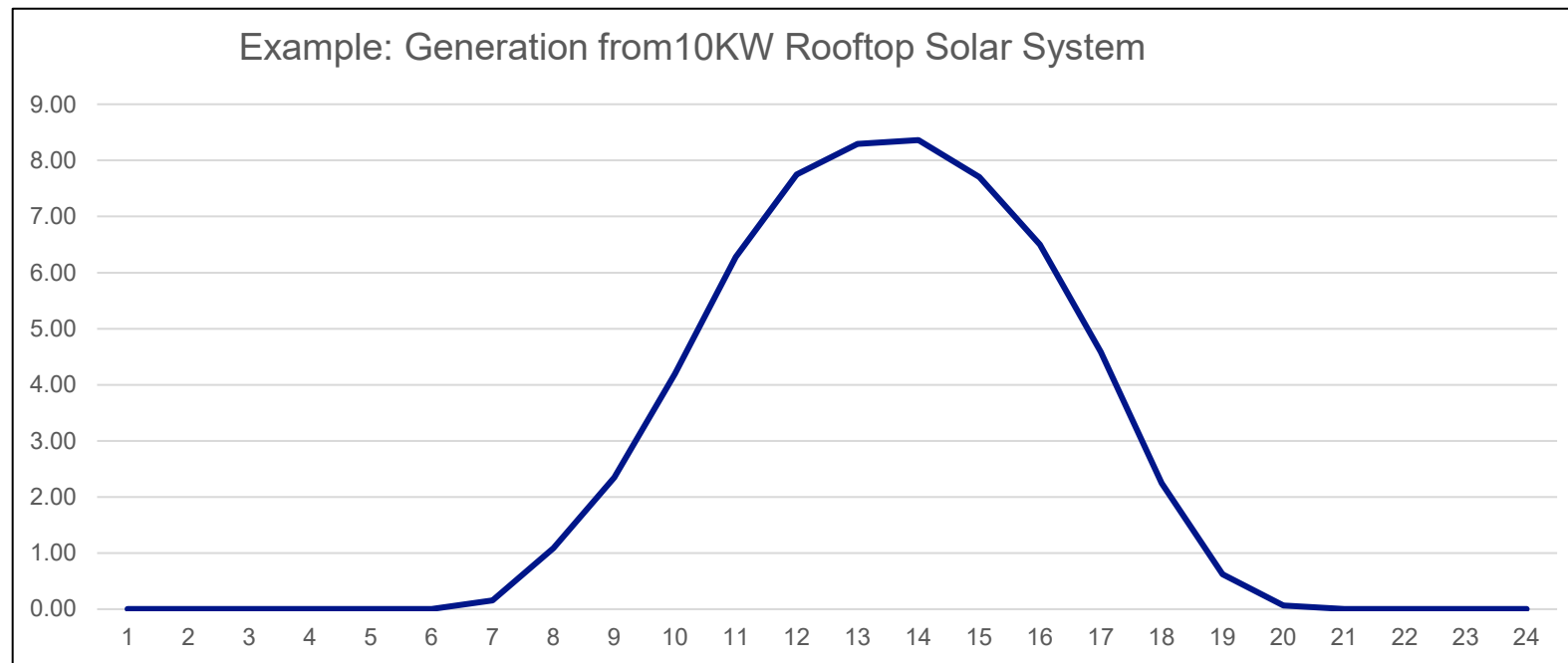
Distribution of PV Customers

Three main characteristics used to develop and update weights

NUMBER OF ROOFTOP SOLAR INSTALLATIONS BY YEAR

DISTRIBUTION OF SYSTEM SIZES

DISTRIBUTION OF CLIMATE ZONE

42%

58%

- COASTAL - INLAND

Application of PV Data – Capacity Factors

Capacity Factors are calculated by taking generation at every hour and dividing it by the system size providing hourly percentage values. Capacity Factors can then be used to estimate hourly generation for any system size or aggregation thereof.
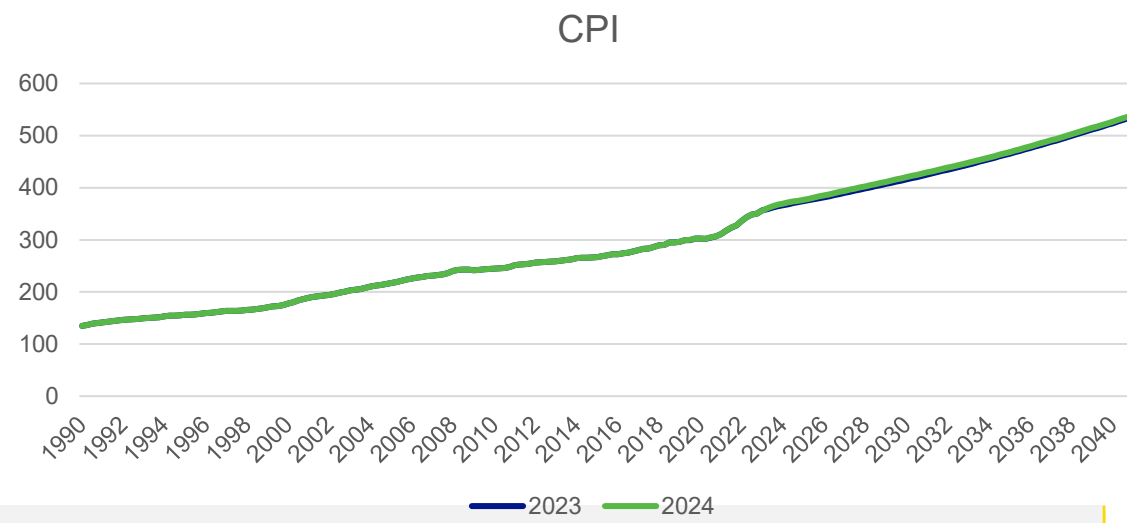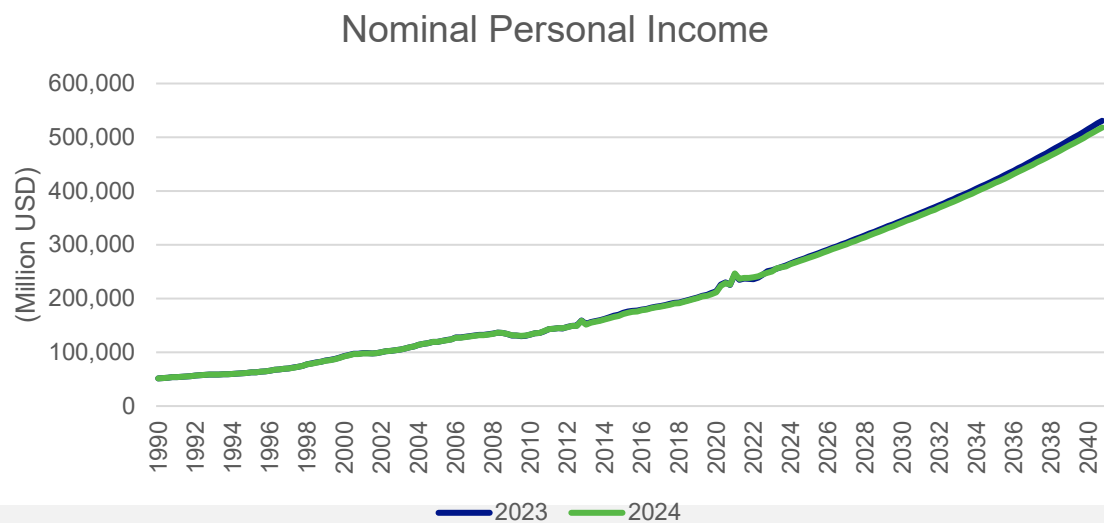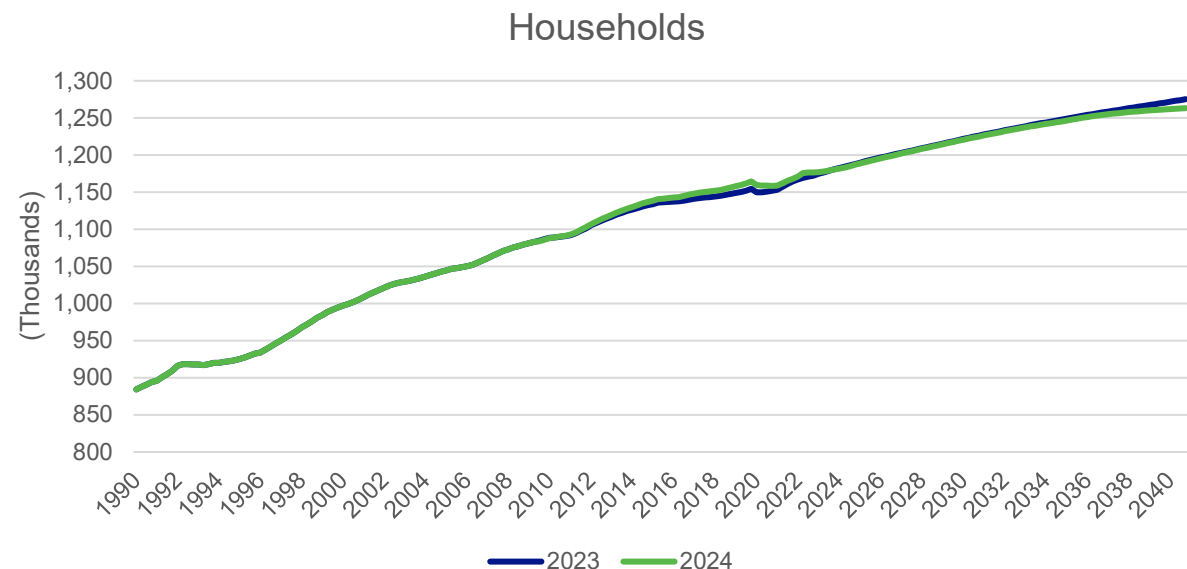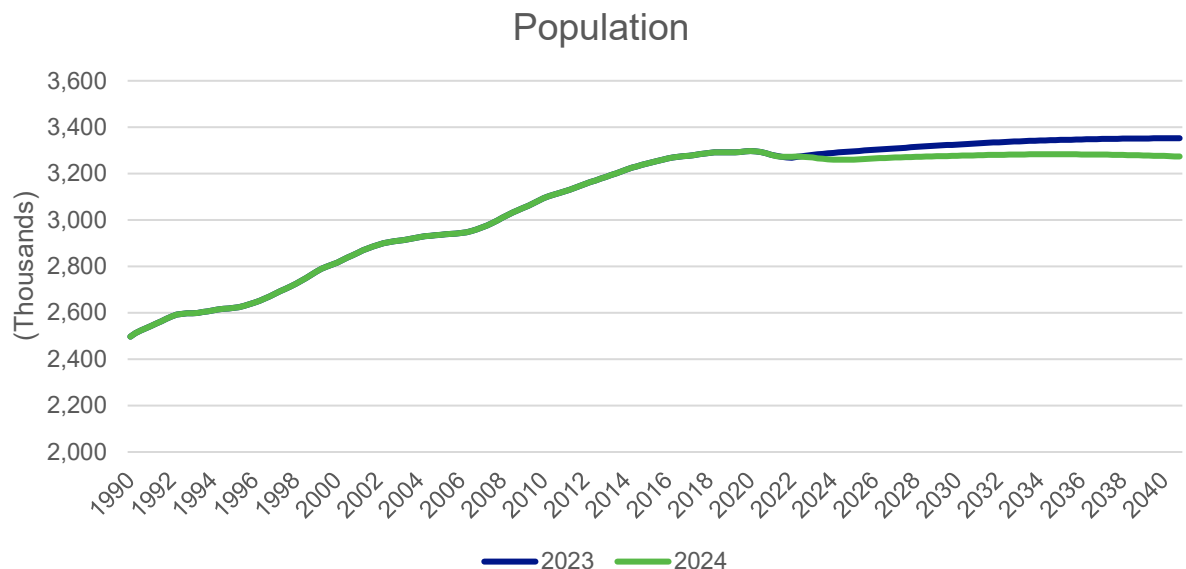
- **CAPACITY FACTOR = GENERATION / SYSTEM SIZE**

- **ESTIMATED GENERATION = CAPACITY FACTOR * SYSTEM SIZE**

Example: Generation from10KW Rooftop Solar System

Overview of Economic and Demographic Data

- SDG&E's Residential and Commercial models rely on historical and forecasted population, households, income, CPI, employment, and GMP data

- Data inputs are collected from Moody's and Global Insight, then blended into a 50/50 split
  - Blending economic data was adopted in the 2019 GRC P1 (D.19-09-051) as a reasonable approach to minimizing different forecasts from both services.

- SDG&E's SAE models include the blended economic and demographic forecast
  - Residential Model: personal income, CPI, population and household
  - Commercial Model: CPI, Employment, GMP

- Graphs included on following slides compare the 50/50 split that was applied in SDG&E's 2023 IEPR to updated data from June, 2024
  - Impact of updated economic and demographic forecasts are unknown at this point. The latest updates are yet to be incorporated into the forecast models.

SDGE™

Residential Data

Commercial Data

Commercial Employment

Nominal GMP