California Energy Commission

IEPR Workshop

California Energy Demand (CED) 2011 Revised Forecast:

SCE Planning Area Electricity Forecasts

February 23, 2012

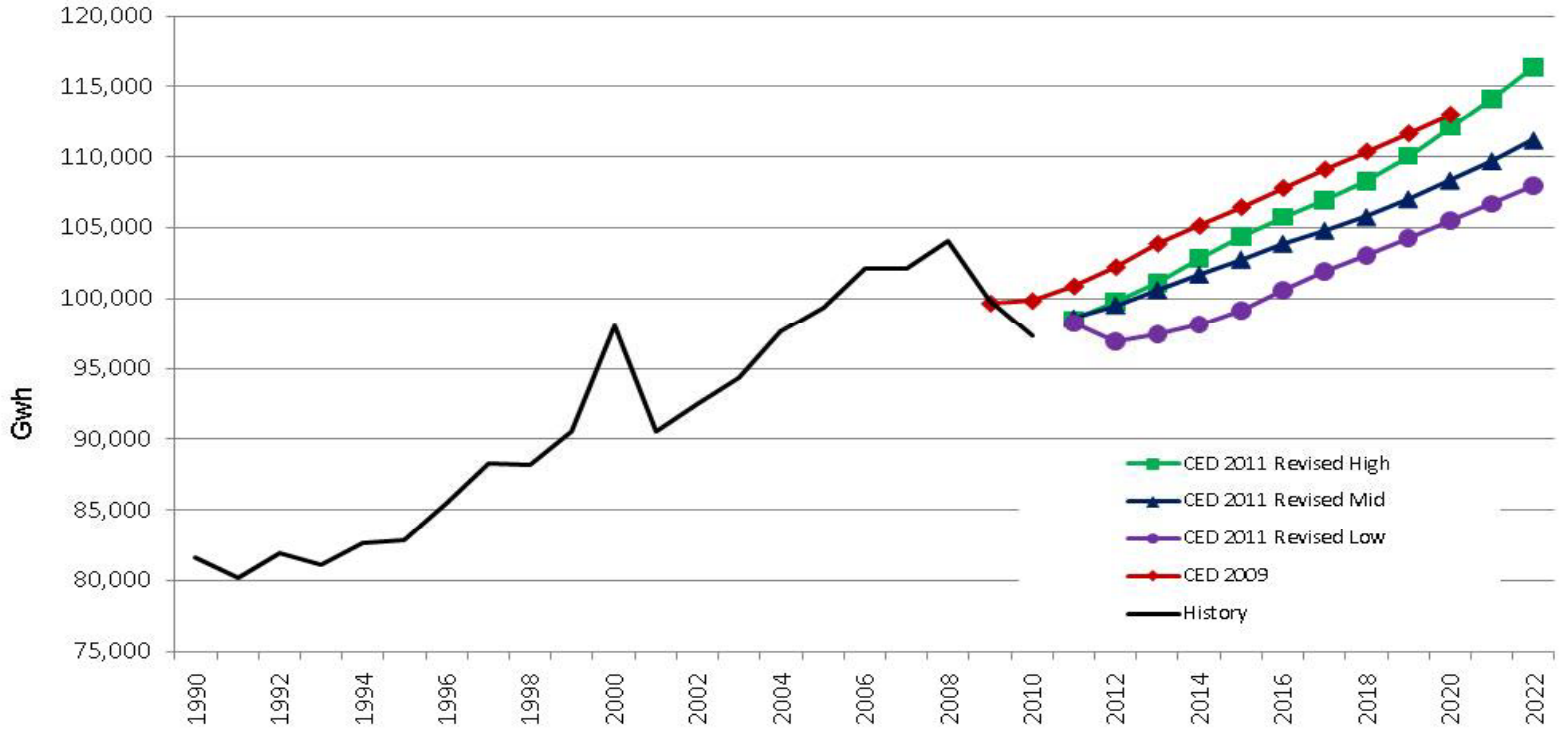
Chris Kavalec
Demand Analysis Office
Electricity Supply Analysis Division
Chris.kavalec@energy.state.ca.us / 916-654-5184

Summary

- In general, lowest projected growth over 2011-2022 for consumption, sales, and peak among 3 IOU planning areas
  - Lower manufacturing and agricultural growth
  - Lower employment/commercial floor space growth
  - Relatively high residential growth increases peak
- Climate change adds 370-530 MW of peak demand by 2022 (1.4-2.0%); PV adoption reduces peak by 170-210 MW by 2022 (2-3%)
- TV standards reduce sales by 900 GWh in 2022 (0.8%); EVs increase sales by 950-1,900 GWh (0.9-1.7%) in 2022

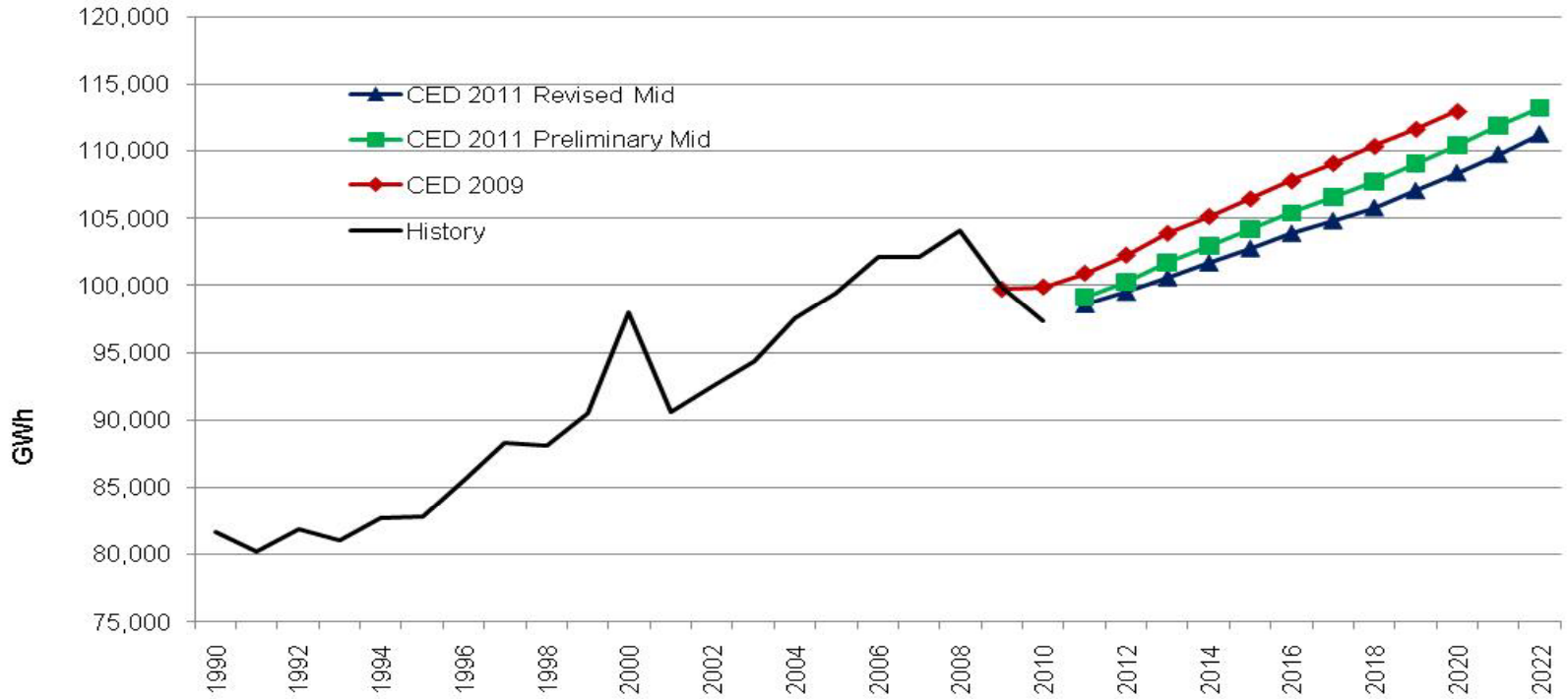
SCE Electricity Consumption

Average annual growth 2011-2022: 1.5% in high case, 0.9% in low case



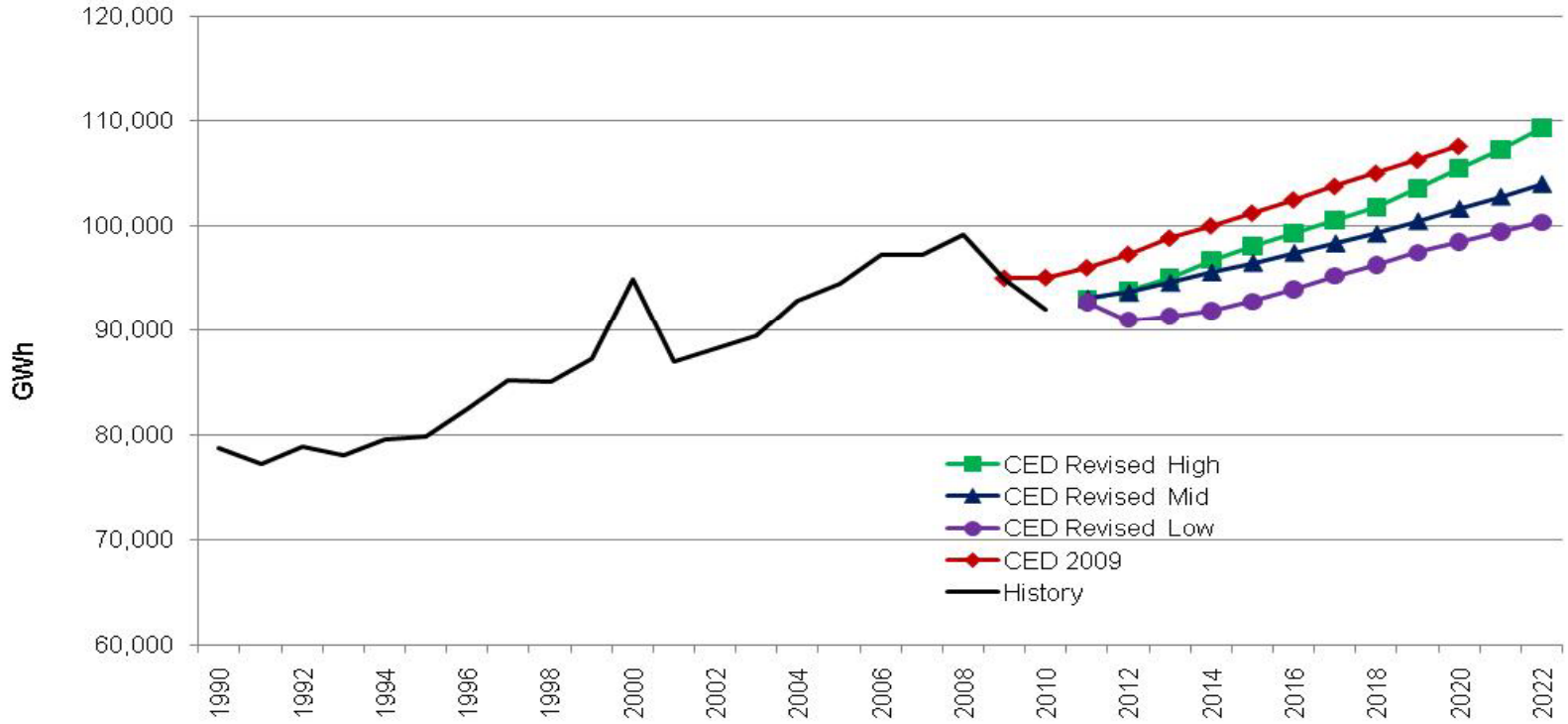
SCE Electricity Consumption

Average annual growth 2011-2020: 1.05% in revised mid, 1.21% in preliminary mid, 1.26% in CED 2009



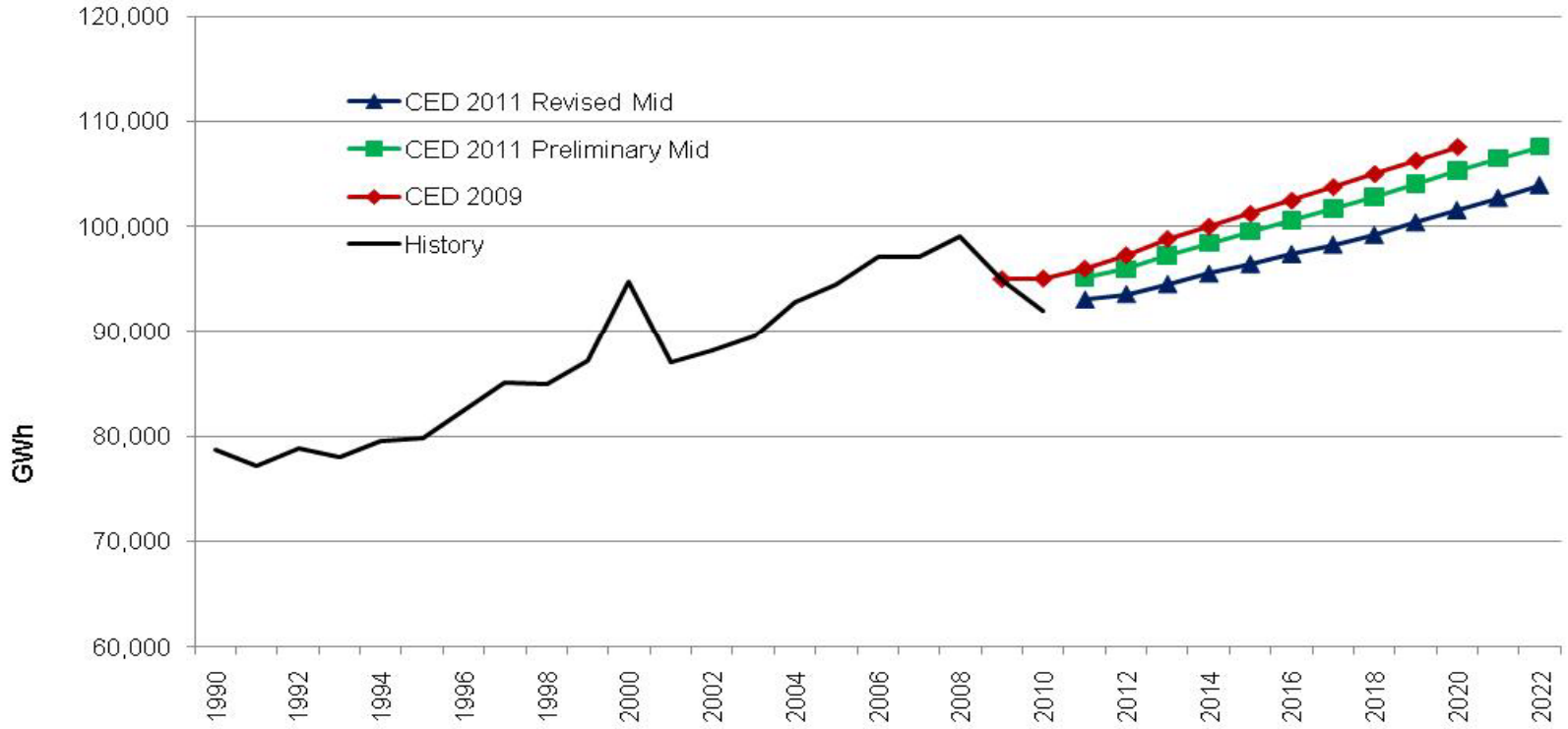
SCE Electricity Sales

Average annual growth 2011-2022: 1.5% in high case, 0.7% in low case



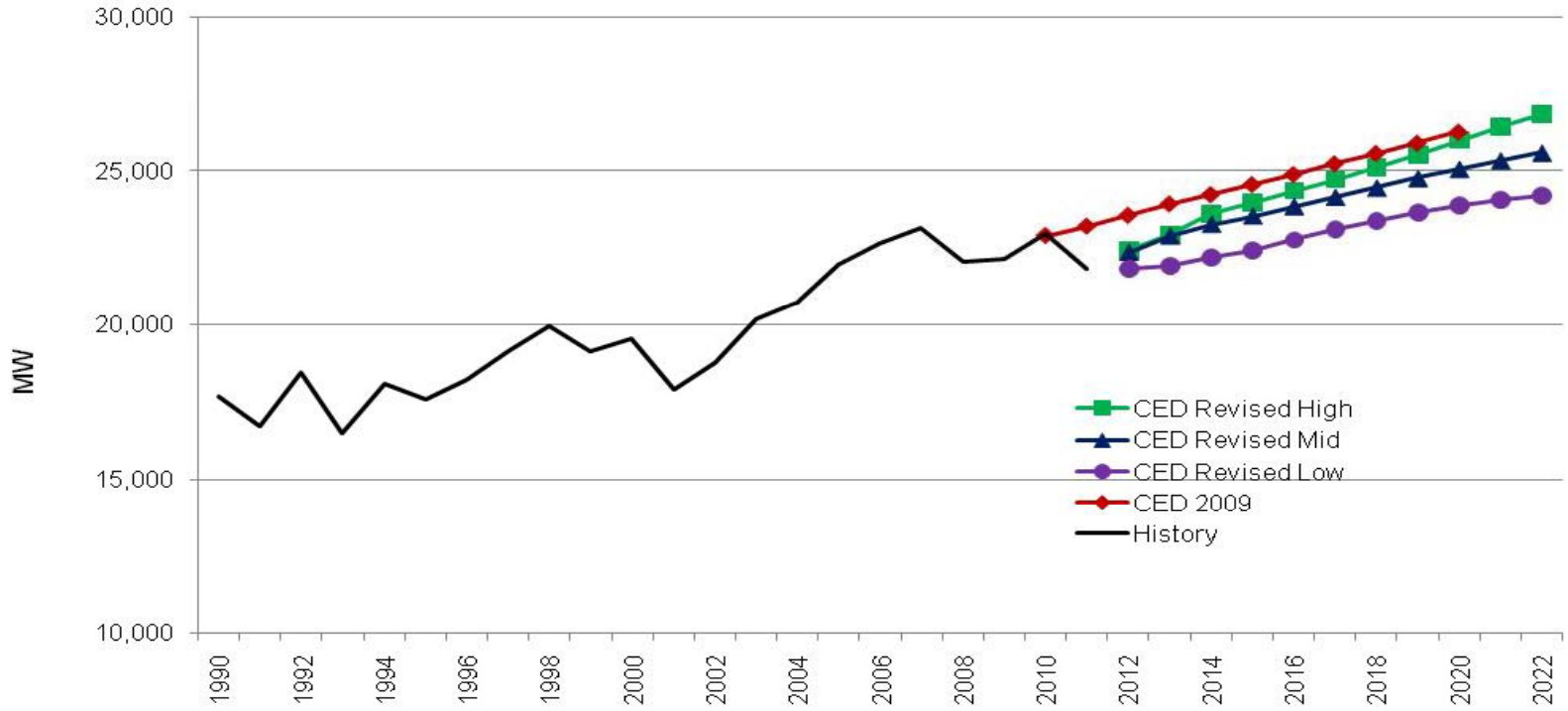
SCE Electricity Sales

Average annual growth 2011-2020: 0.97% in revised mid, 1.13% in preliminary mid, 1.27% in CED 2009



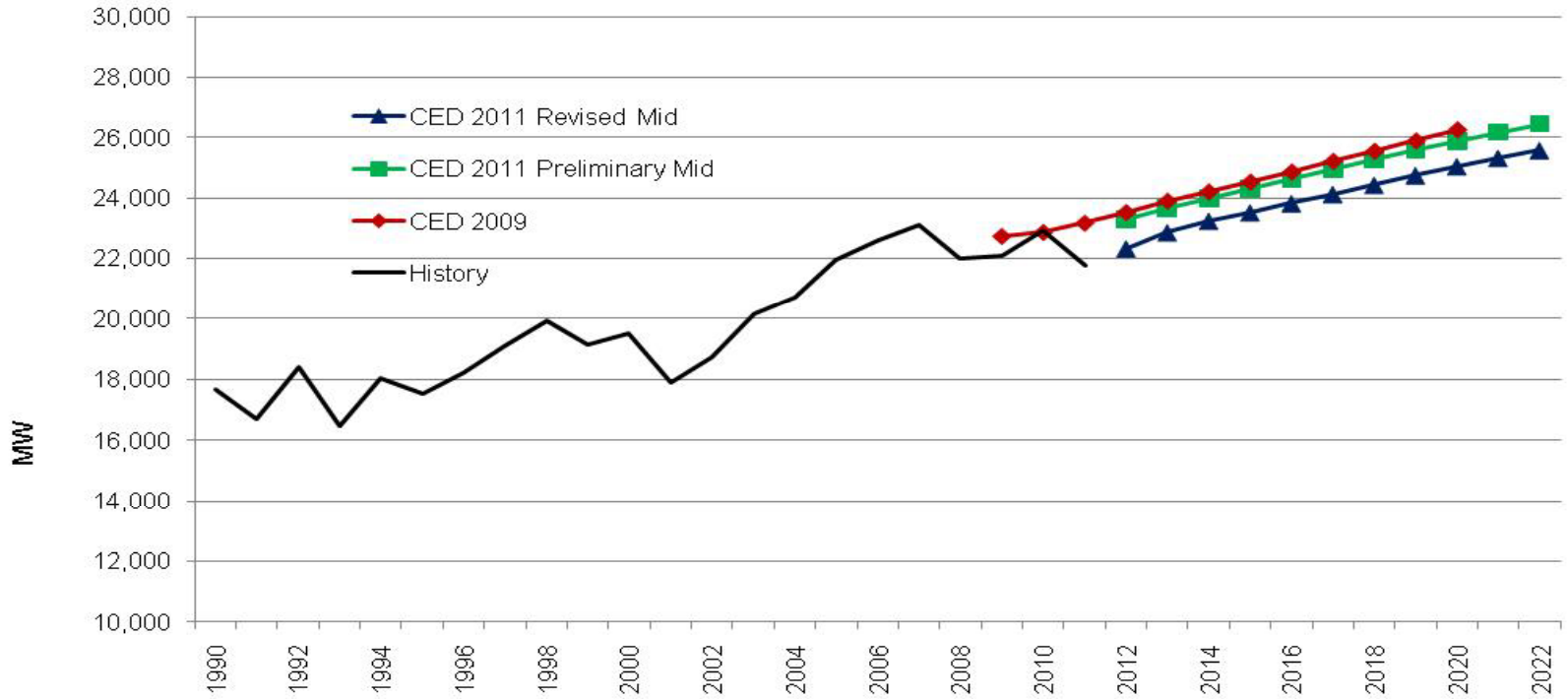
SCE Peak Demand

Average annual growth 2011-2022: 1.9% in high case, 0.95% in low case



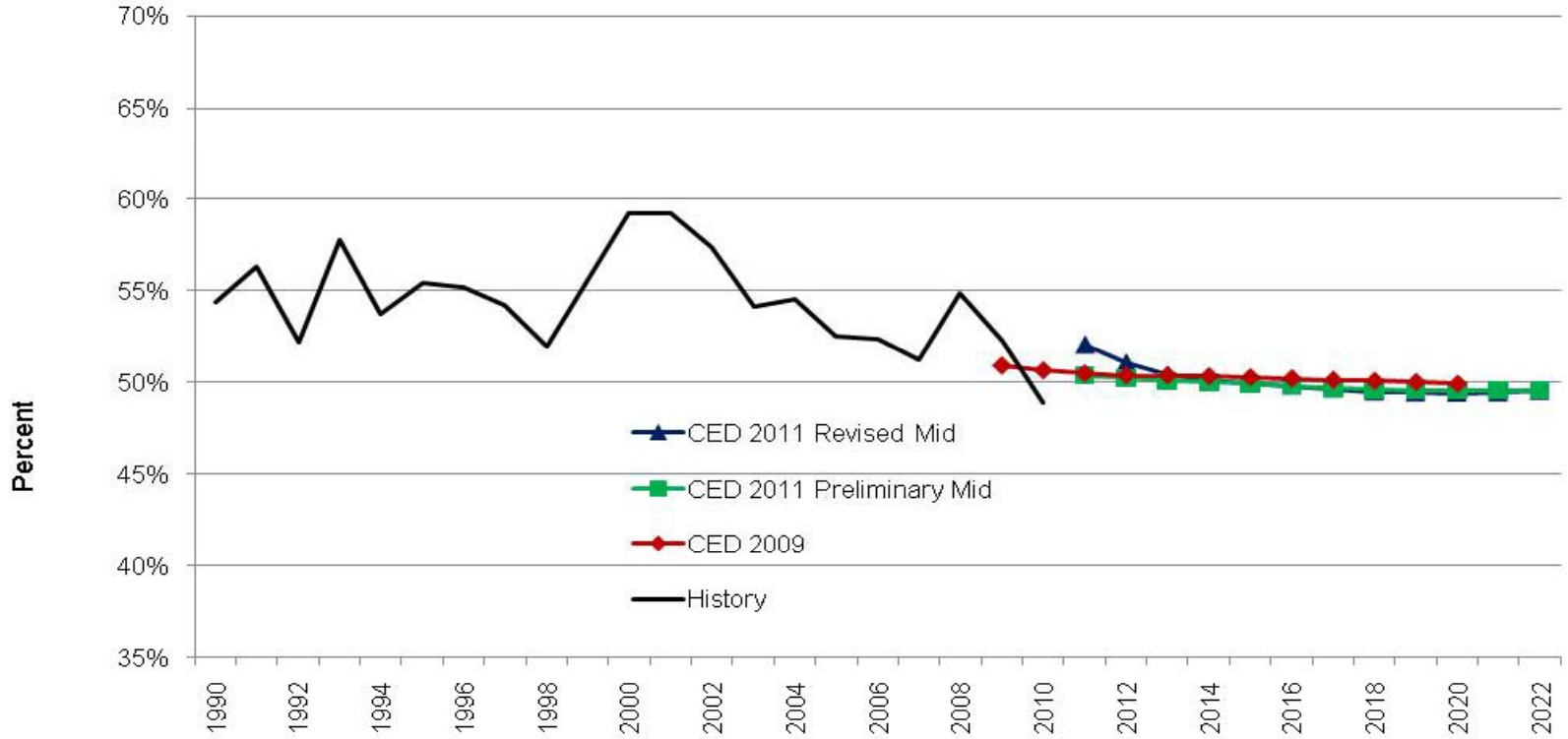
SCE Peak Demand

Average annual growth 2011-2020: 1.56% in revised mid, 1.31% in preliminary mid, 1.40% in CED 2009



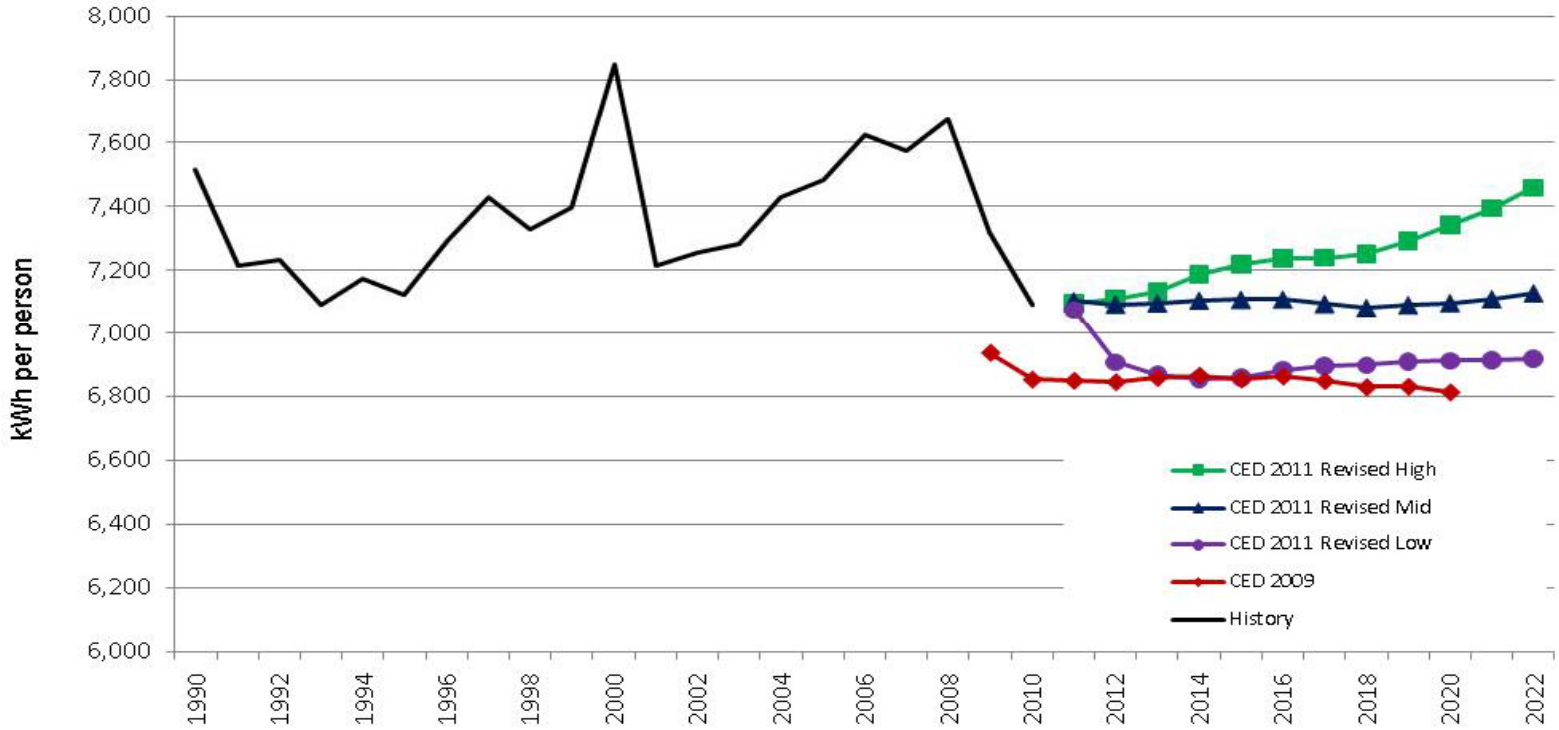
SCE Load Factors

CED 2011 Revised falls slightly below preliminary toward end of forecast period due to climate change



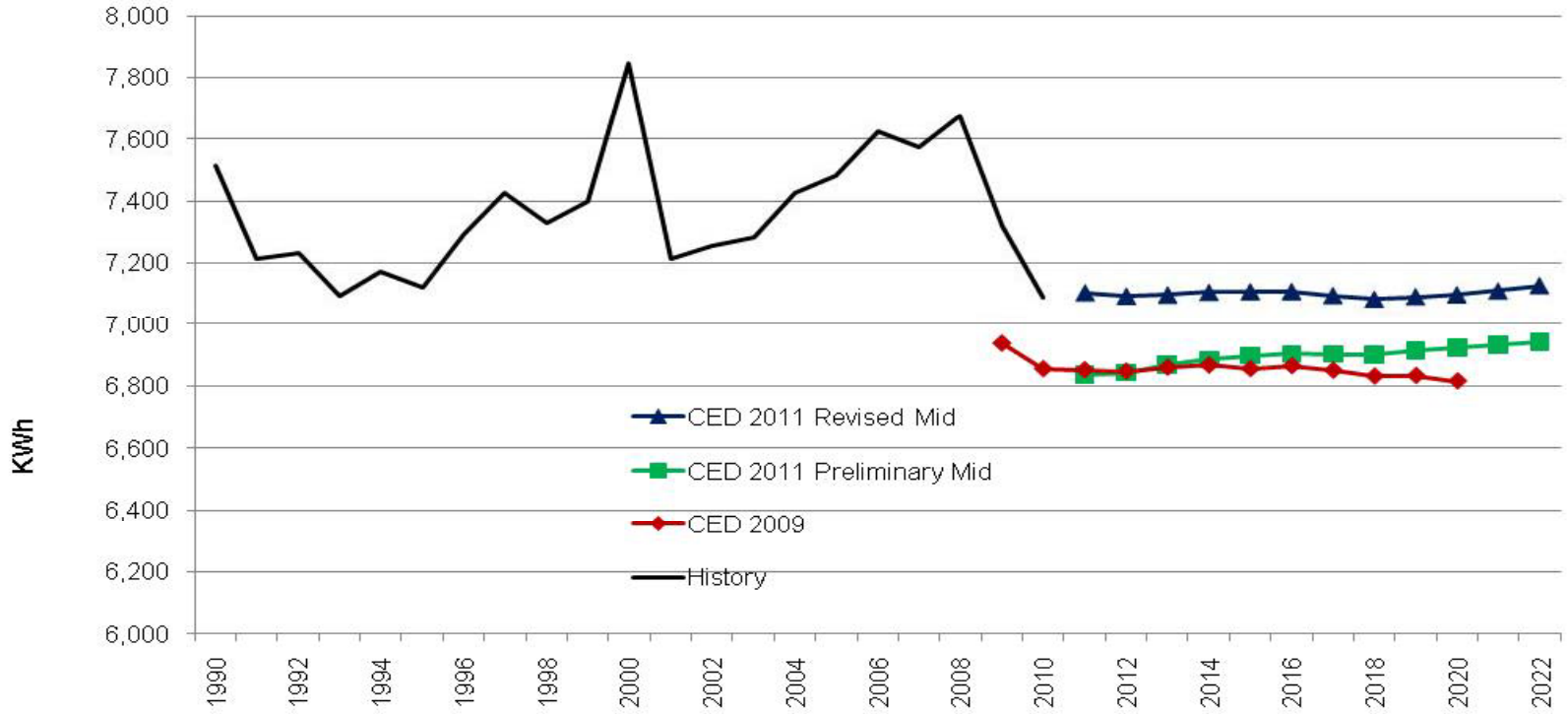
SCE Per Capita Consumption

Significant increase in high demand case only



SCE Per Capita Consumption

Population adjustment increases per capita consumption by 270 kWh in 2011 vs. preliminary

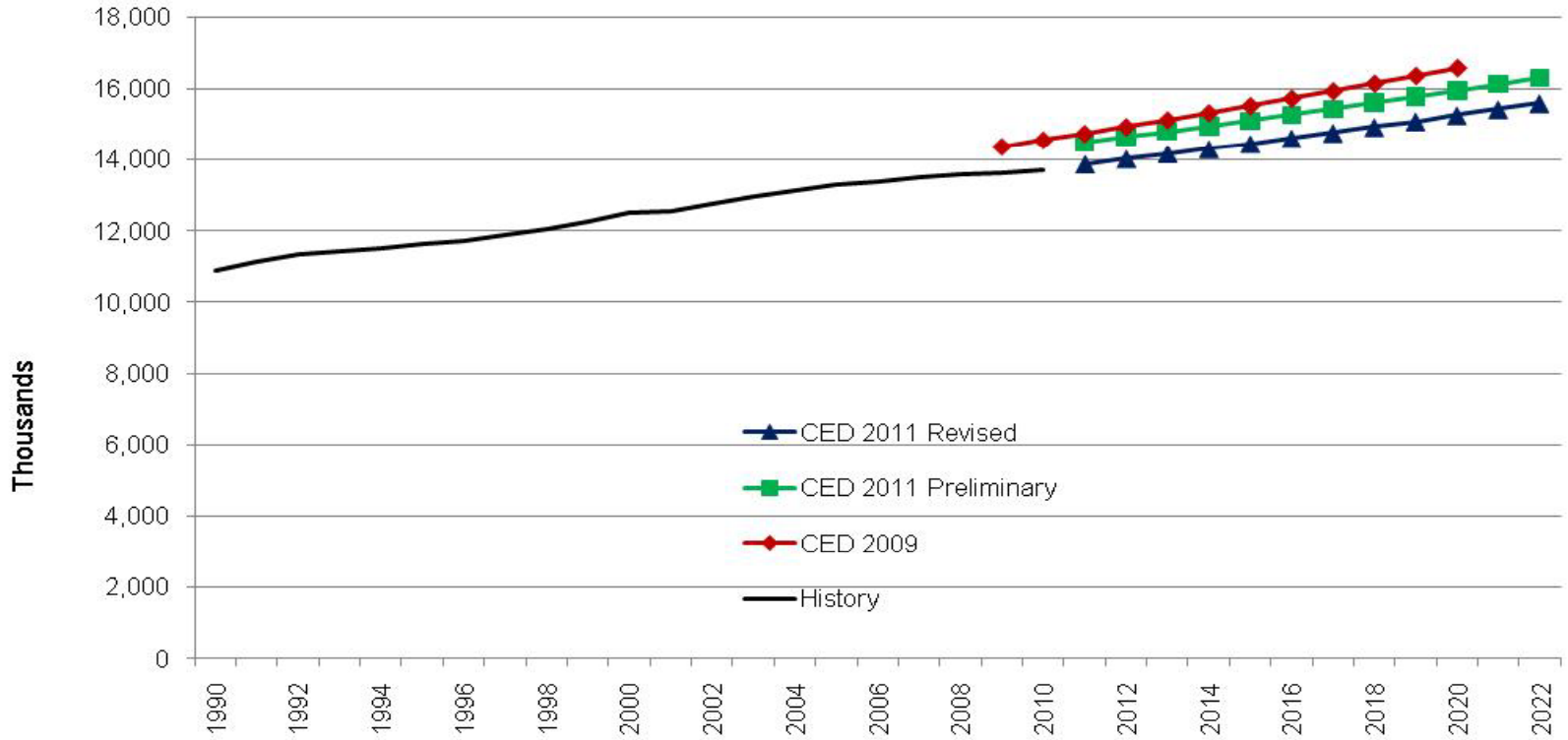


SCE Forecast: Factoids

- Of three major sectors, growth in consumption is fastest in residential sector (1.81% per year 2011-2022 in mid case), followed by commercial (1.2%), and industrial (0.05%)
- Relatively high residential consumption growth results in higher peak vs. consumption growth
- Decline in manufacturing sector contributes to lower growth in mid and low cases vs. other planning areas
- Growth 2011-2022 in agricultural sector is flat; TCU/ streetlighting sector grows at annual rate of slightly less than 1 percent

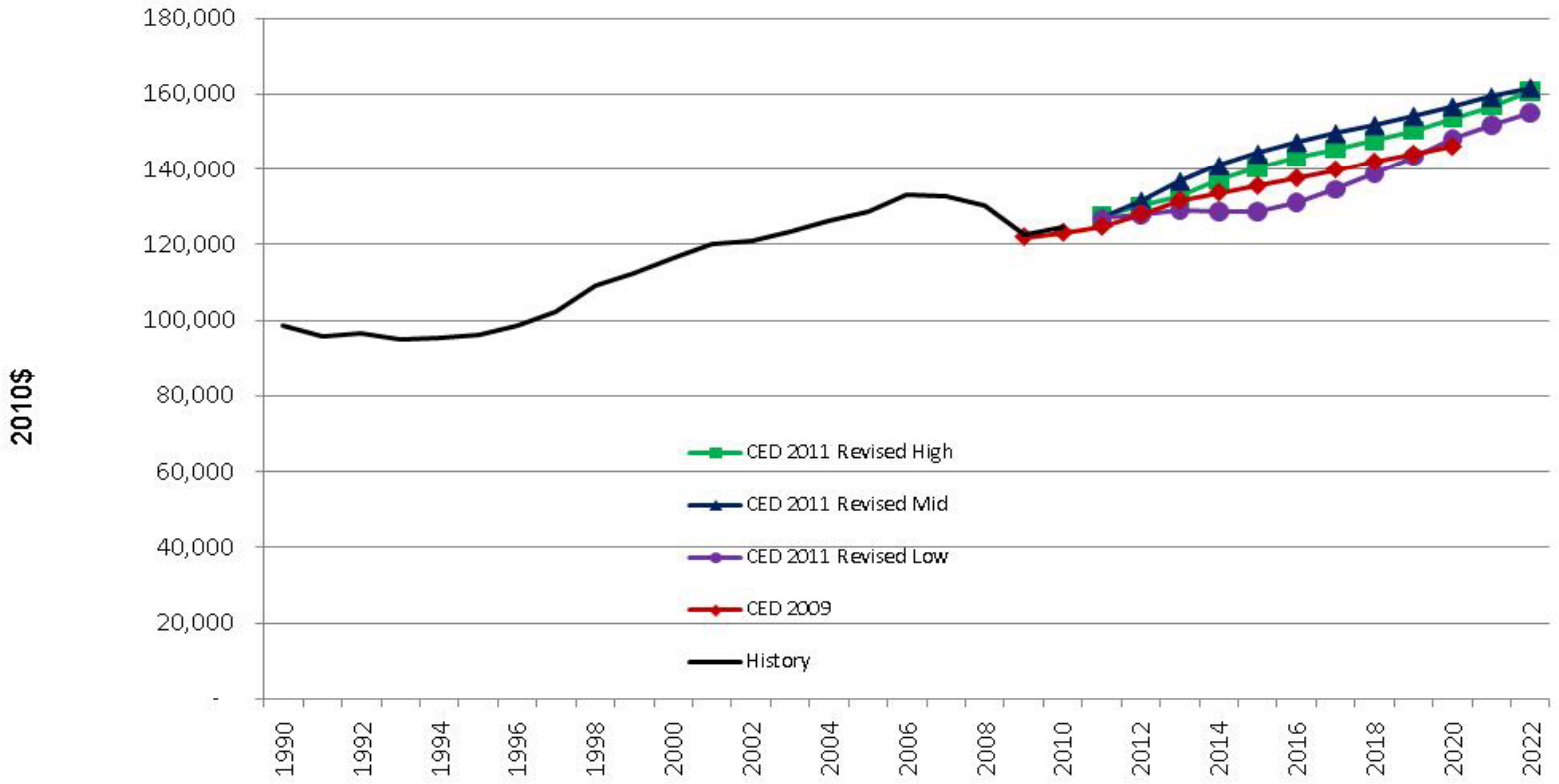
Key Input: Household Population

Slower growth 2011-2020 in CED 2011 vs. CED 2009



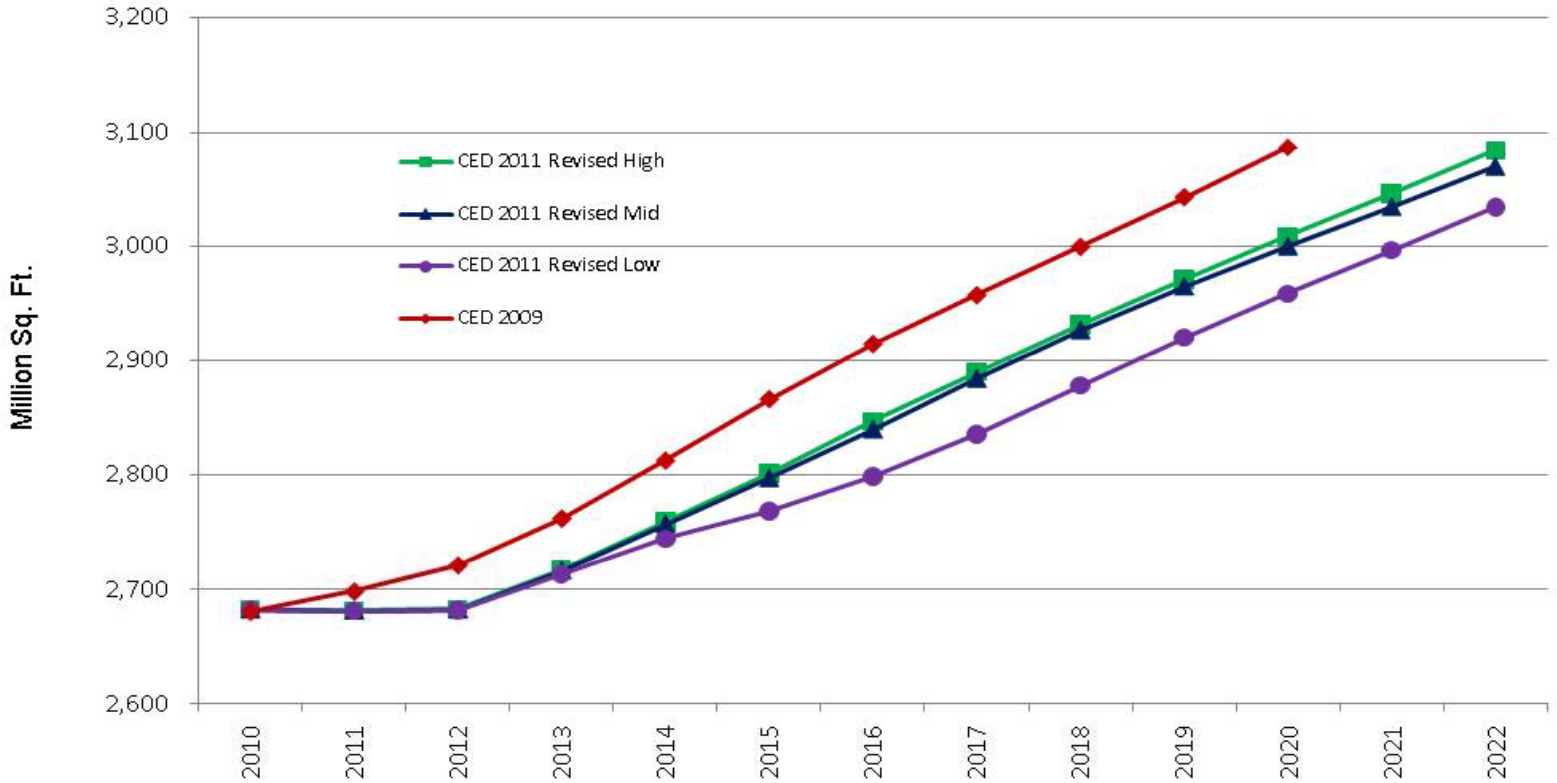
Key Input: Income per Household

Faster growth in mid and high cases vs. CED 2009



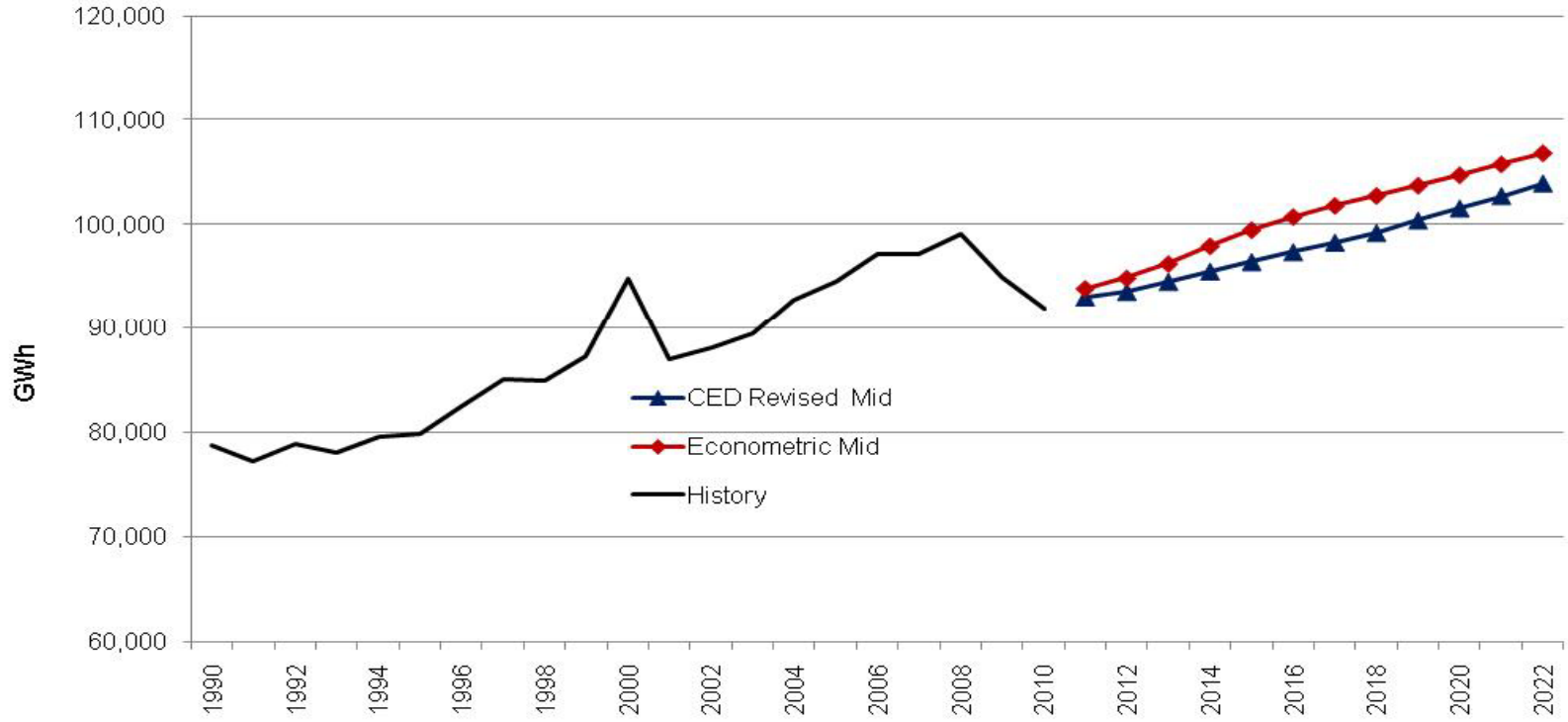
Key Input: Commercial Floorspace

Slower growth vs. CED 2009



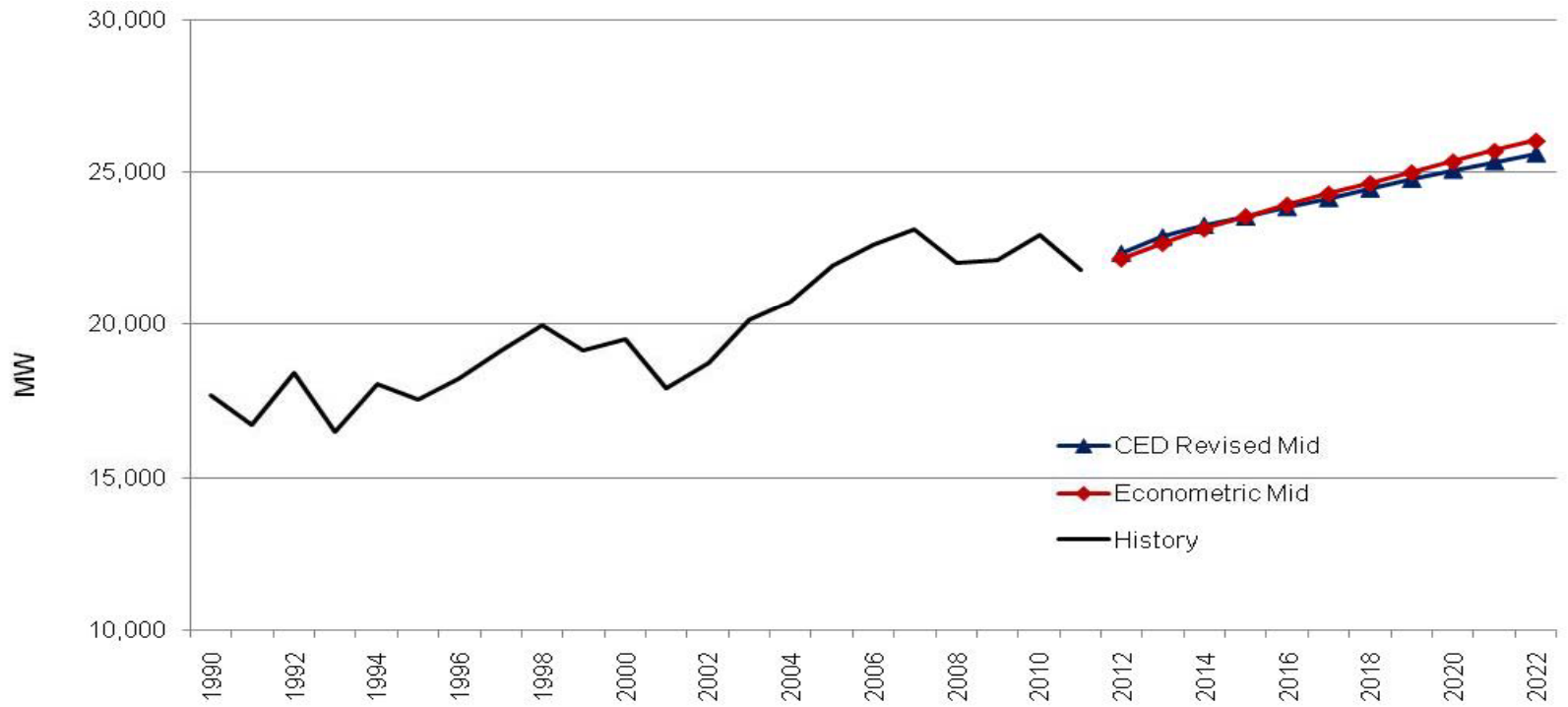
SCE Electricity Sales: CED 2011 Revised vs. Econometric Forecast (Mid Case)

Econometric 2.8% higher in 2022



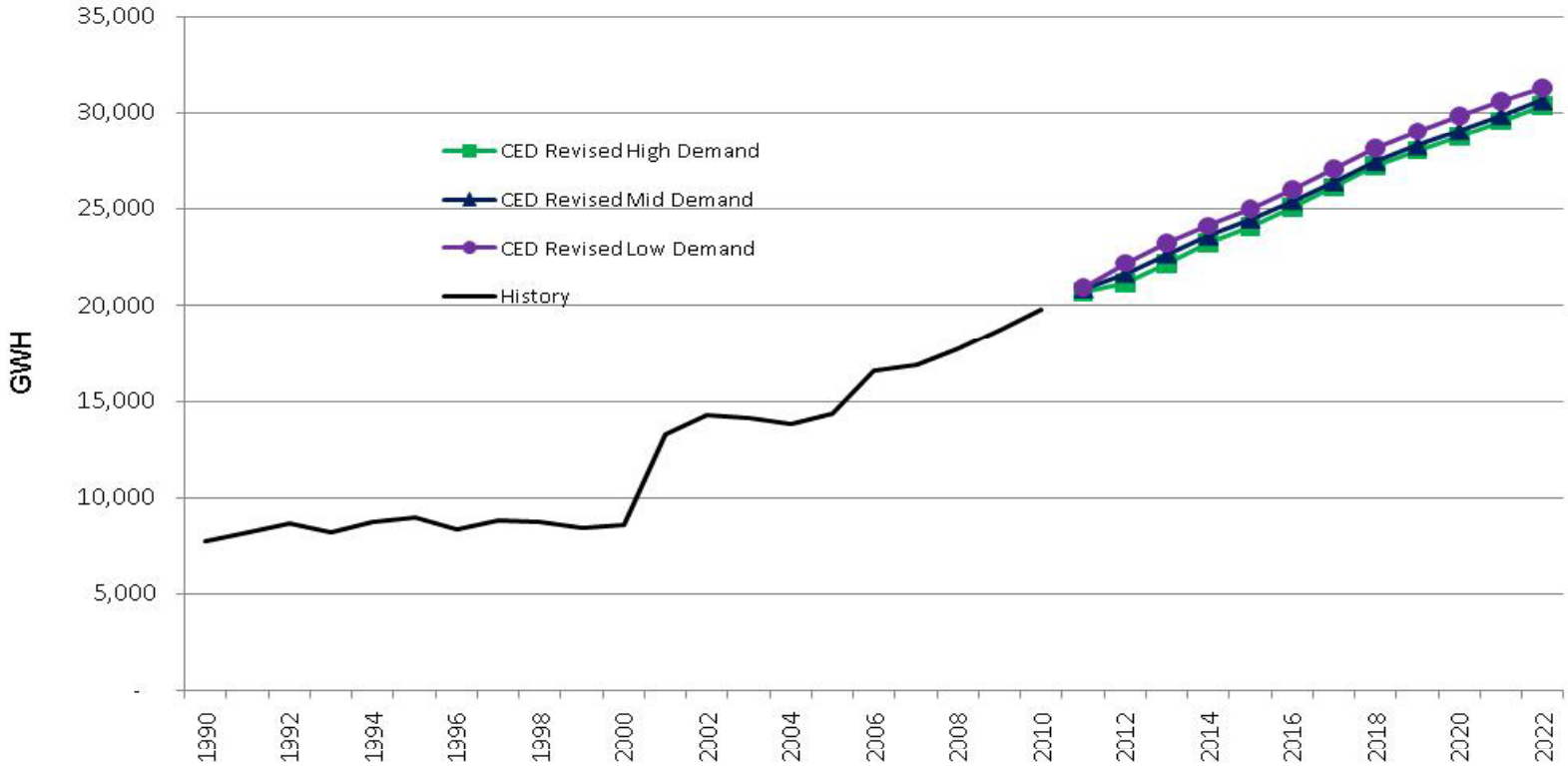
SCE Peak Demand: CED 2011 Revised vs. Econometric Forecast (Mid Case)

Econometric 1.0% higher in 2022



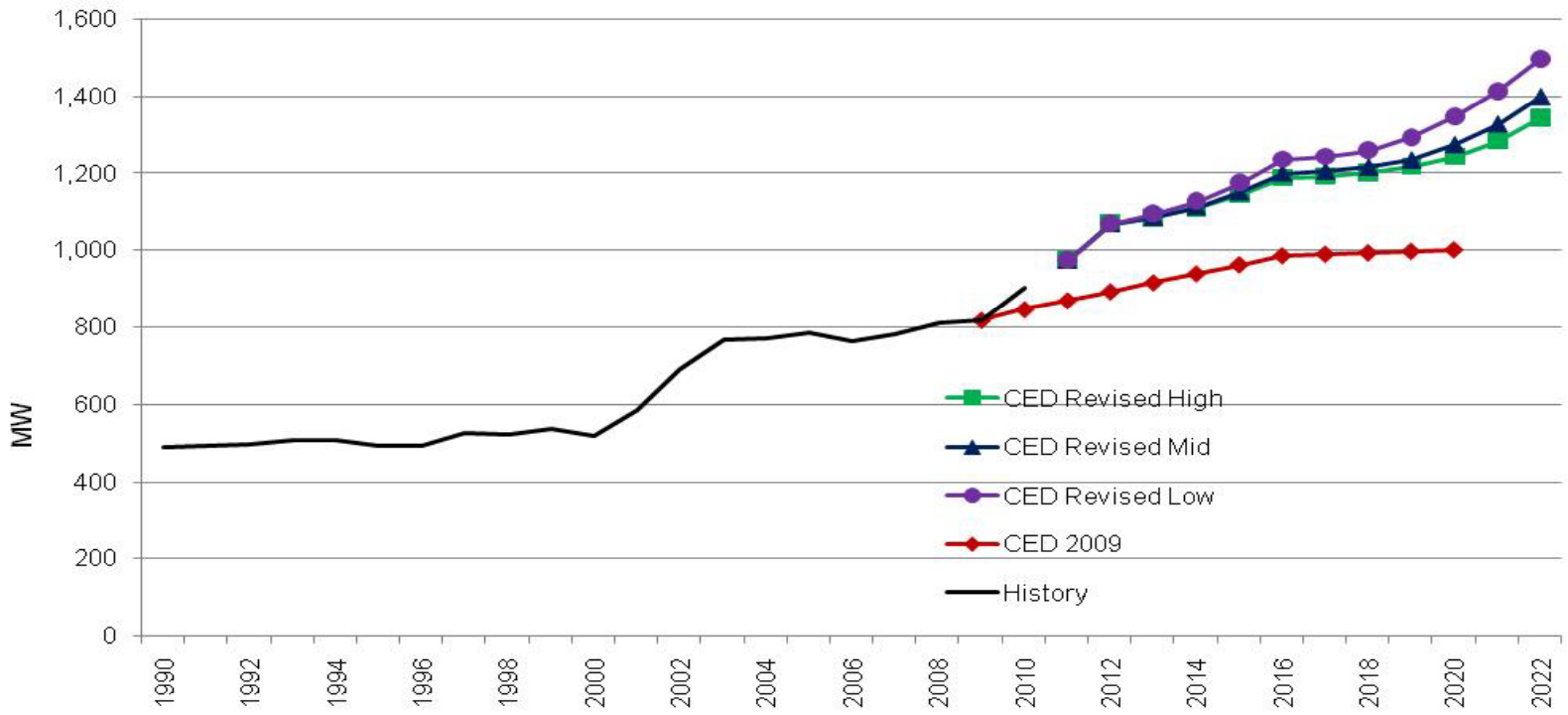
SCE Efficiency Impacts

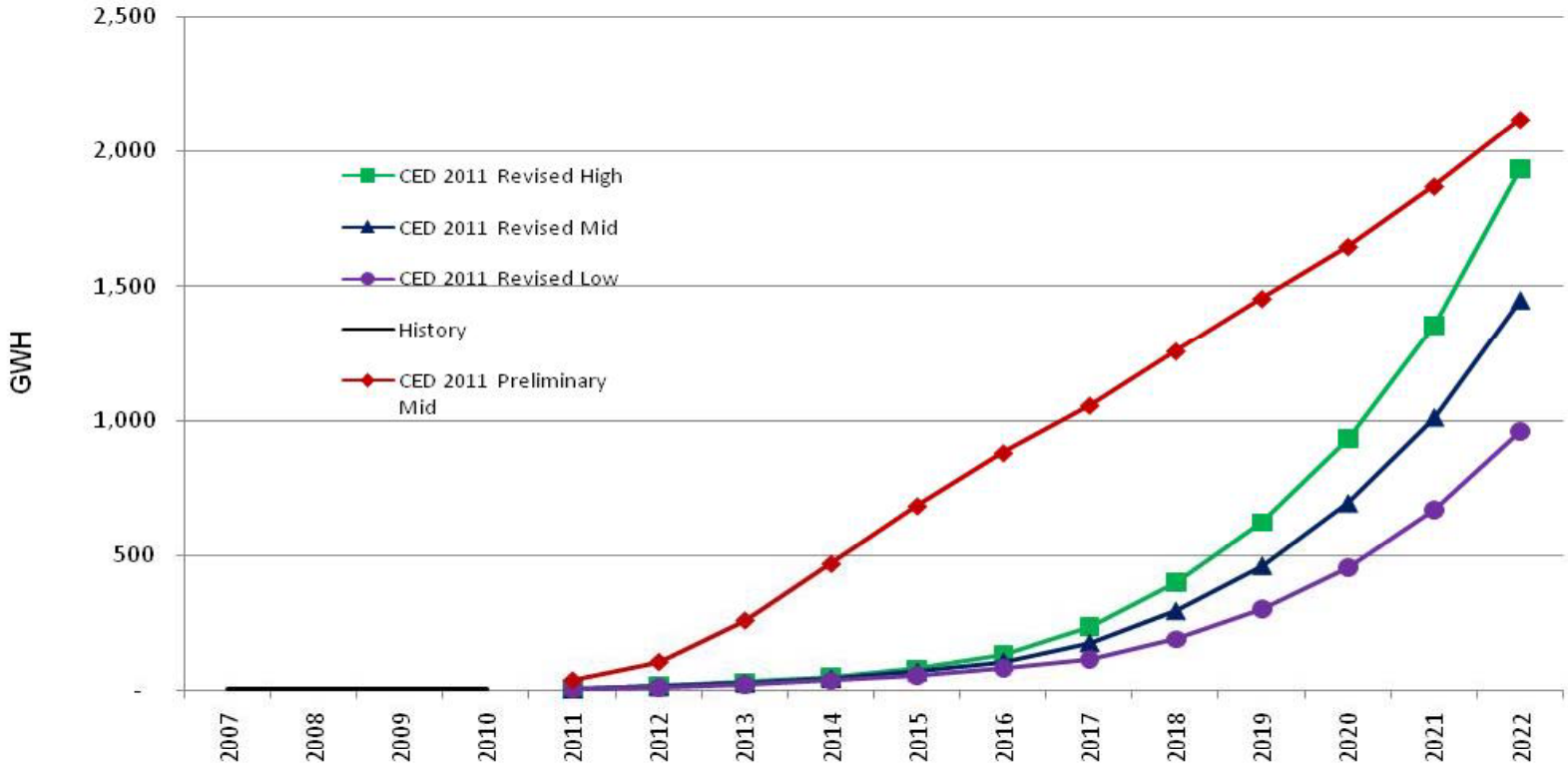
9.5-10.5 k additional GWh savings 2011-2022



SCE Self-Generation Peak Impacts

PV Peak impacts increase by 300-450 MW 2011-2022



SCE Electric Vehicles

700 GWh lower in mid case compared to preliminary forecast mid case