



California Energy Commission

IEPR Committee Workshop

CALIFORNIA ENERGY DEMAND 2011-2022 PRELIMINARY STAFF FORECAST

August 30, 2011 — 10:00 am

SCE Planning Area Electricity and Peak Forecast

Demand Analysis Office
Electricity Supply Analysis Division



SCE Forecast Overview

- 2010 reported consumption was 2.5% below *CED 2009* forecast
 - Caused by lower commercial and industrial use
- *CED 2011* mid case consumption 2011-2020 growth rate similar to *CED 2009*
- 2010 weather normalized peak was 2% below *CED 2009* forecast
- *CED 2011* mid case peak 2011-2020 growth rate slightly lower than *CED 2009*
- Load factor similar to *CED 2009*
- Per capita consumption and peak projected to be relatively constant



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SCE Planning Area Forecast Results

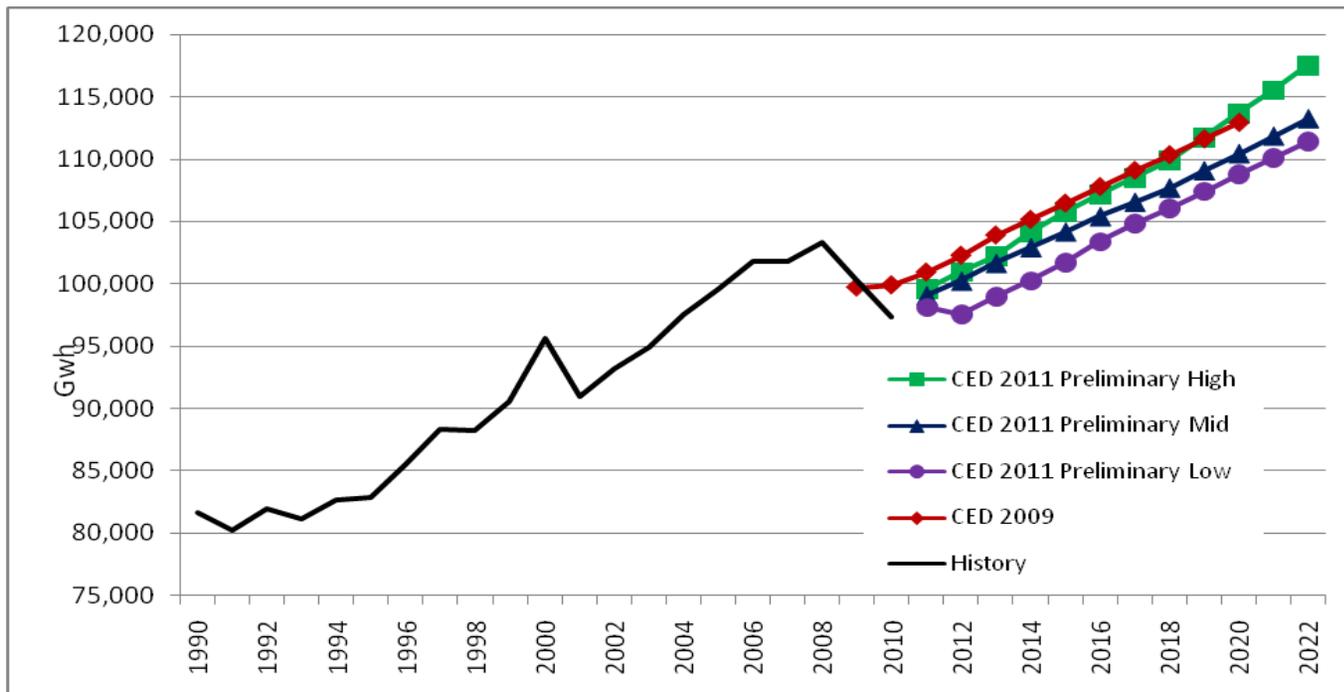
Consumption (GWH)				
	<i>CED 2009</i> (Dec. 2009)	<i>CED 2011</i> Preliminary-High	<i>CED 2011</i> Preliminary-Mid	<i>CED 2011</i> Preliminary-Low
1990	82,069	81,671	81,671	81,671
2000	99,148	95,601	95,601	95,601
2010	99,875	97,366	97,366	97,366
2011	100,907	99,534	99,075	98,117
2015	106,460	105,688	104,177	101,746
2020	112,964	113,672	110,442	108,793
2022	--	117,548	113,228	111,440
Average Annual Growth Rates				
1990-2000	1.91%	1.59%	1.59%	1.59%
2000-2010	0.07%	0.18%	0.18%	0.18%
2011-2015	1.35%	1.51%	1.26%	0.91%
2011-2020	1.26%	1.49%	1.21%	1.15%
2011-2022	--	1.52%	1.22%	1.16%
Peak (MW)				
	<i>CED 2009</i> (Dec. 2009)	<i>CED 2011</i> Preliminary-High	<i>CED 2011</i> Preliminary-Mid	<i>CED 2011</i> Preliminary-Low
1990	17,647	17,647	17,647	17,647
2000	19,506	19,506	19,506	19,506
2010	22,877	22,916	22,916	22,916
2011	23,181	23,075	23,021	22,843
2015	24,572	24,586	24,308	23,748
2020	26,337	26,524	25,885	25,382
2022	--	27,330	26,446	25,853
Average Annual Growth Rates				
1990-2000	1.01%	1.01%	1.01%	1.01%
2000-2010	1.61%	1.62%	1.62%	1.62%
2011-2015	1.47%	1.60%	1.37%	0.98%
2011-2020	1.43%	1.56%	1.31%	1.18%
2011-2022	--	1.55%	1.27%	1.13%

Historical values are shaded



SCE Electricity Consumption Forecast

- Lower starting point, similar mid case growth

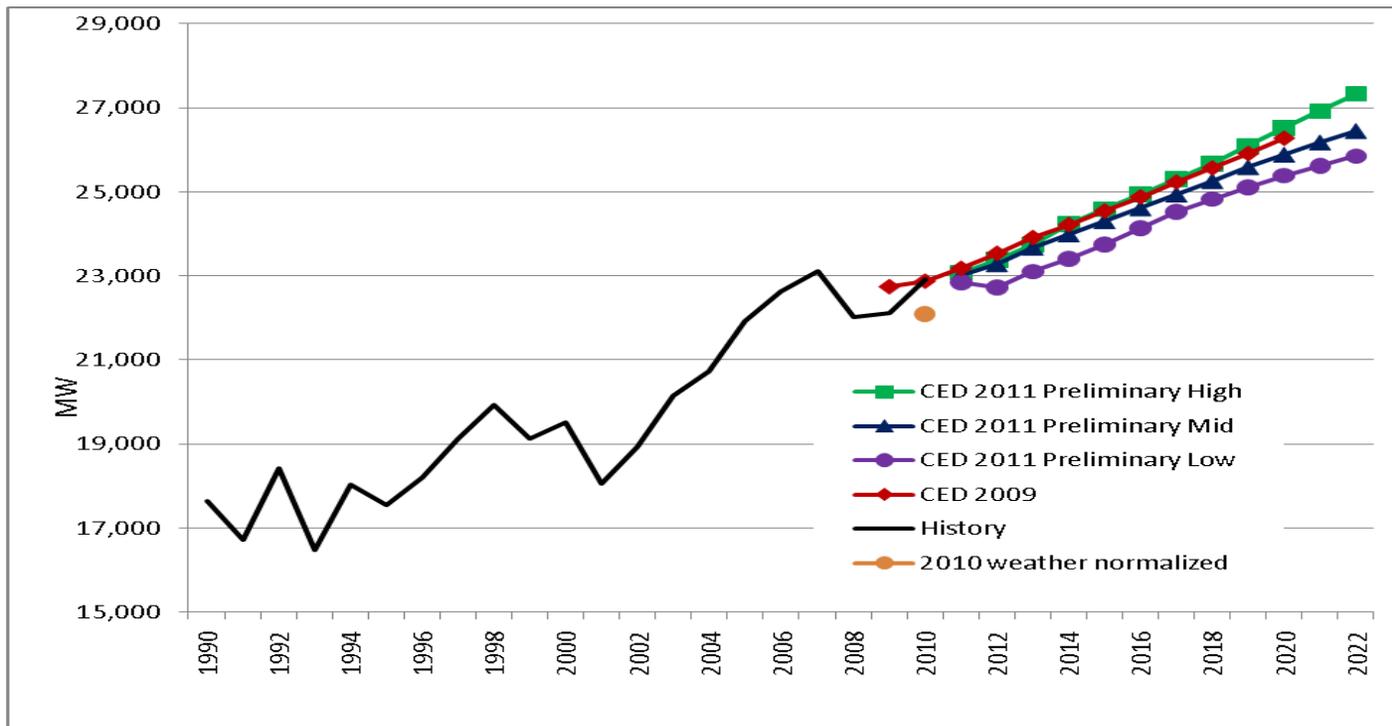


Source: California Energy Commission, 2011



SCE Planning Area Peak Forecast

- Lower mid case growth

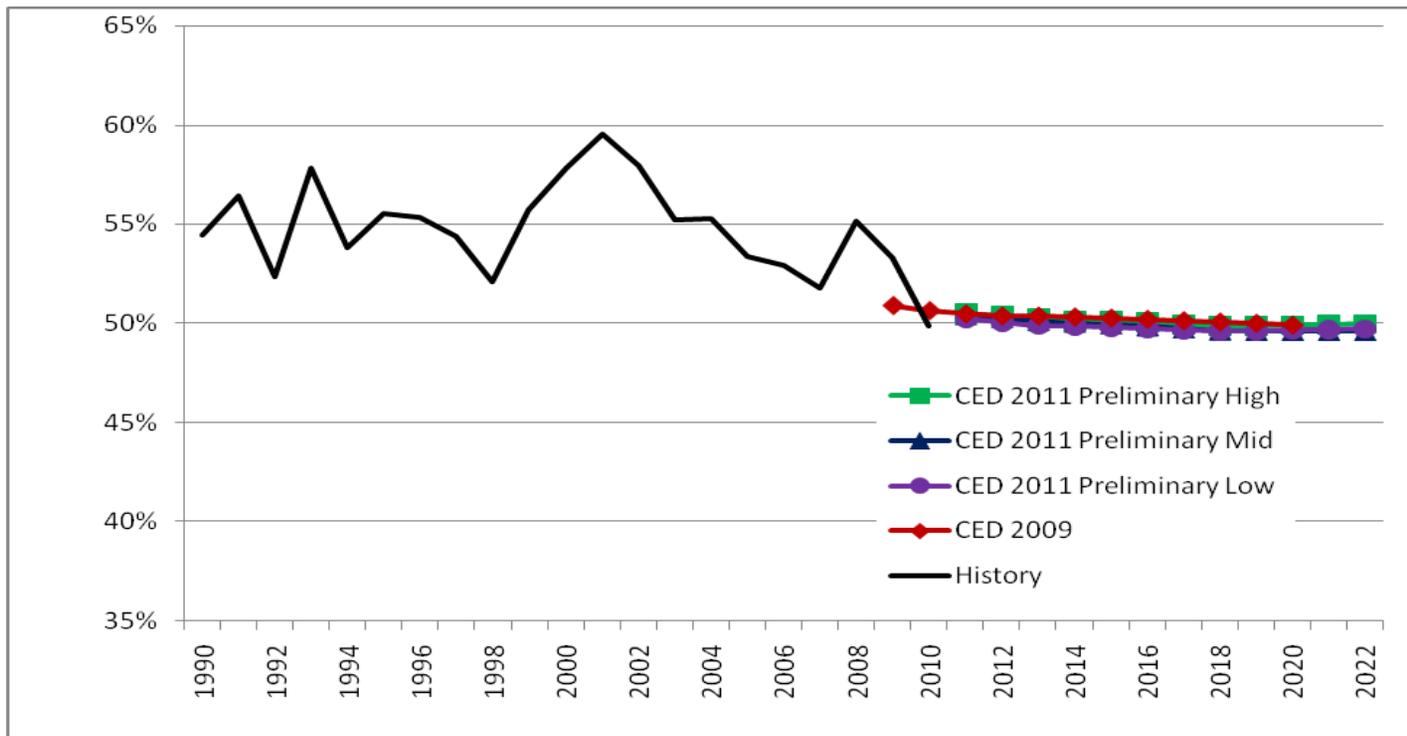


Source: California Energy Commission, 2011



SCE Planning Area Load Factor

- Similar to *CED 2009*

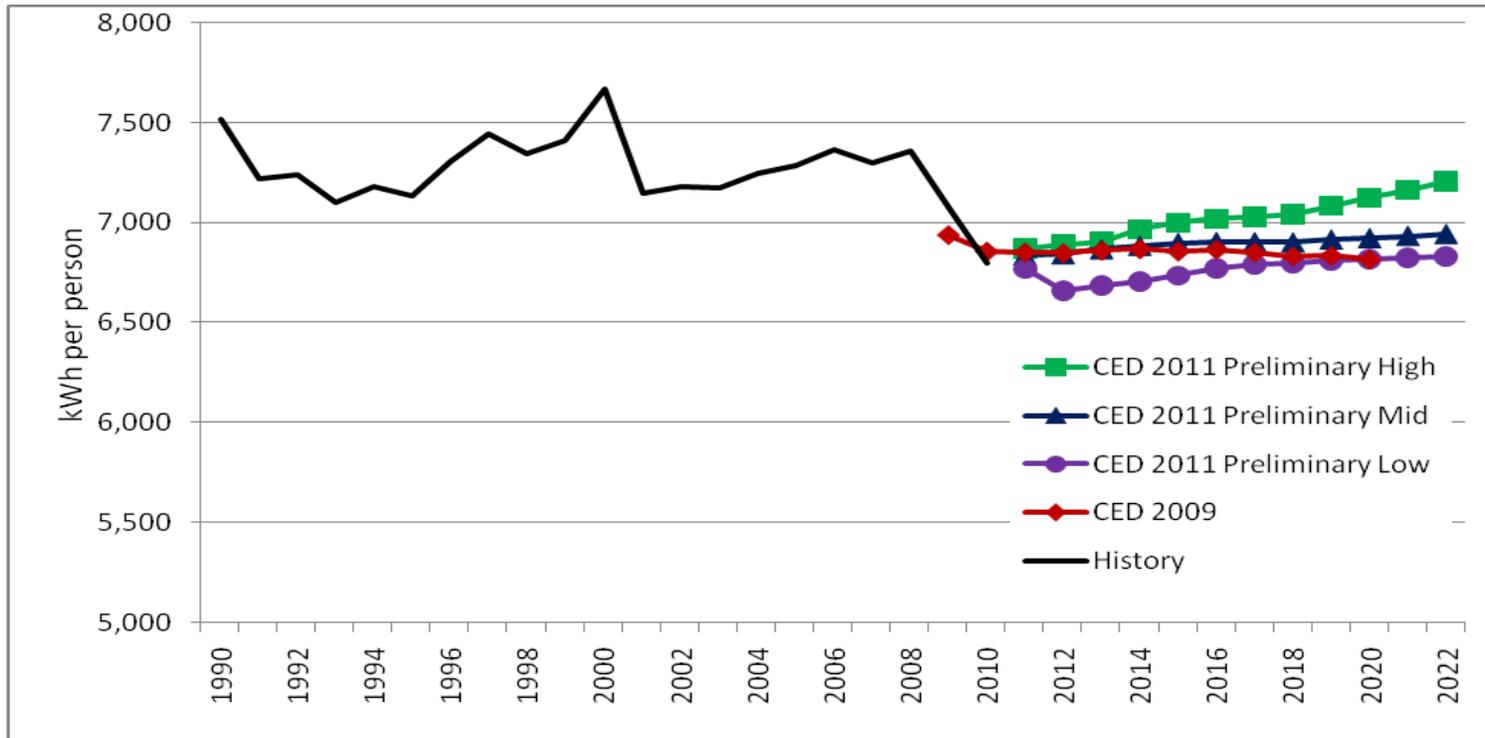


Source: California Energy Commission, 2011



SCE per Capita Consumption

- Mid case constant, slightly higher than *CED 2009*



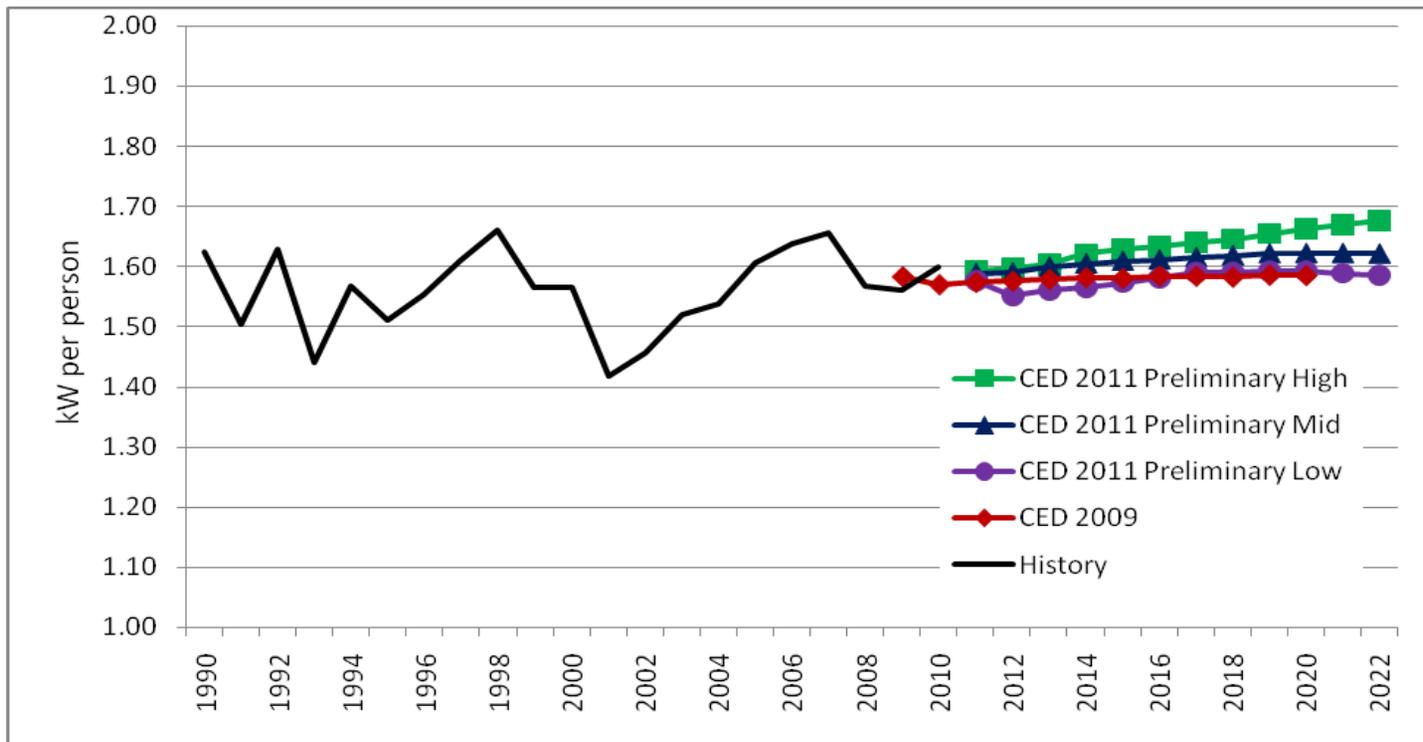
Source: California Energy Commission, 2011



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SCE per Capita Peak

- Mid case remains constant at higher level than *CED 2009*



Source: California Energy Commission, 2011



SCE Residential Forecast

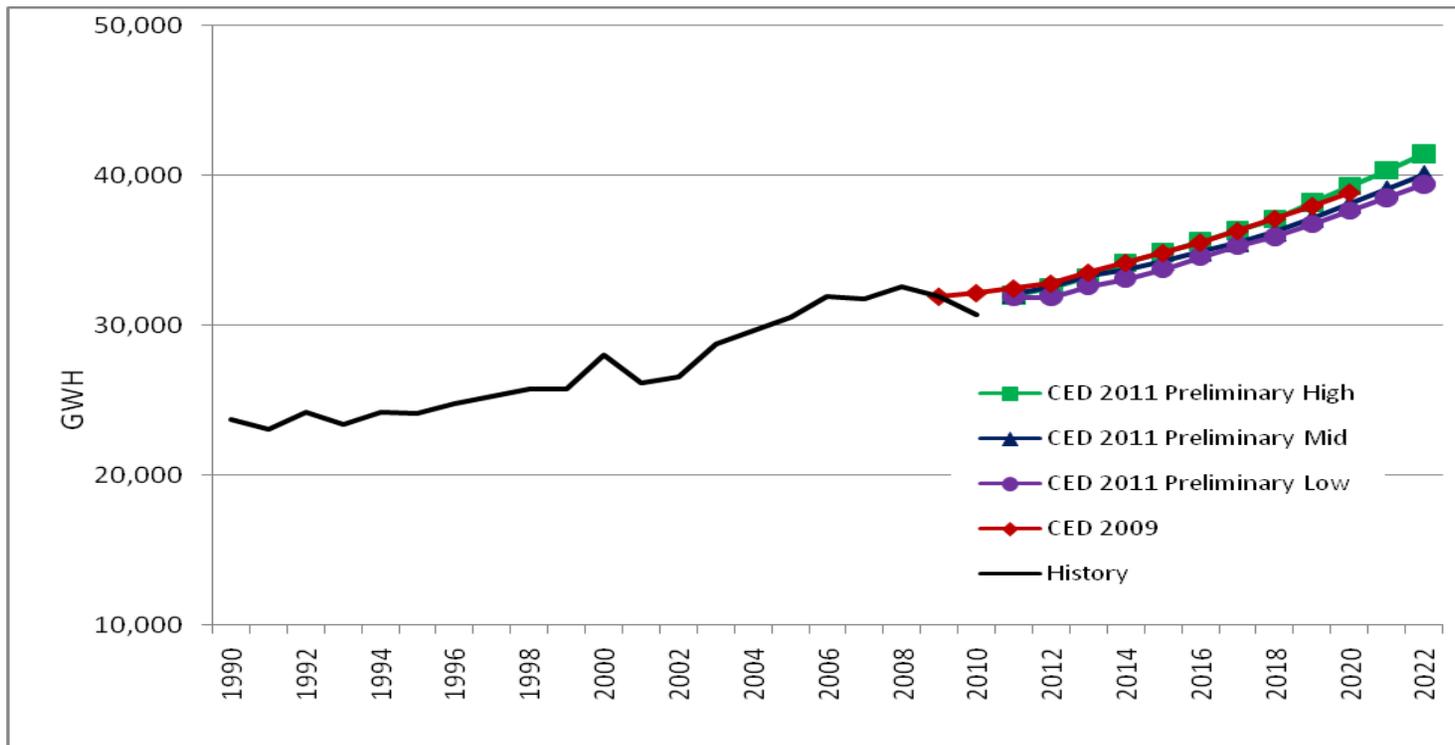
- 2010 reported consumption was 4.5% below *CED 2009* forecast
- Slightly lower growth than *CED 2009*
- Lower household growth in mid and low cases than *CED 2009*
 - Combination of lower population and revised persons per household forecasts
- Household income (persons per household * per capita income) grows at a faster rate than *CED 2009*
- Use per household increases in the long term from impact of EV's and increased income



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SCE Residential Consumption

- Slightly lower forecast

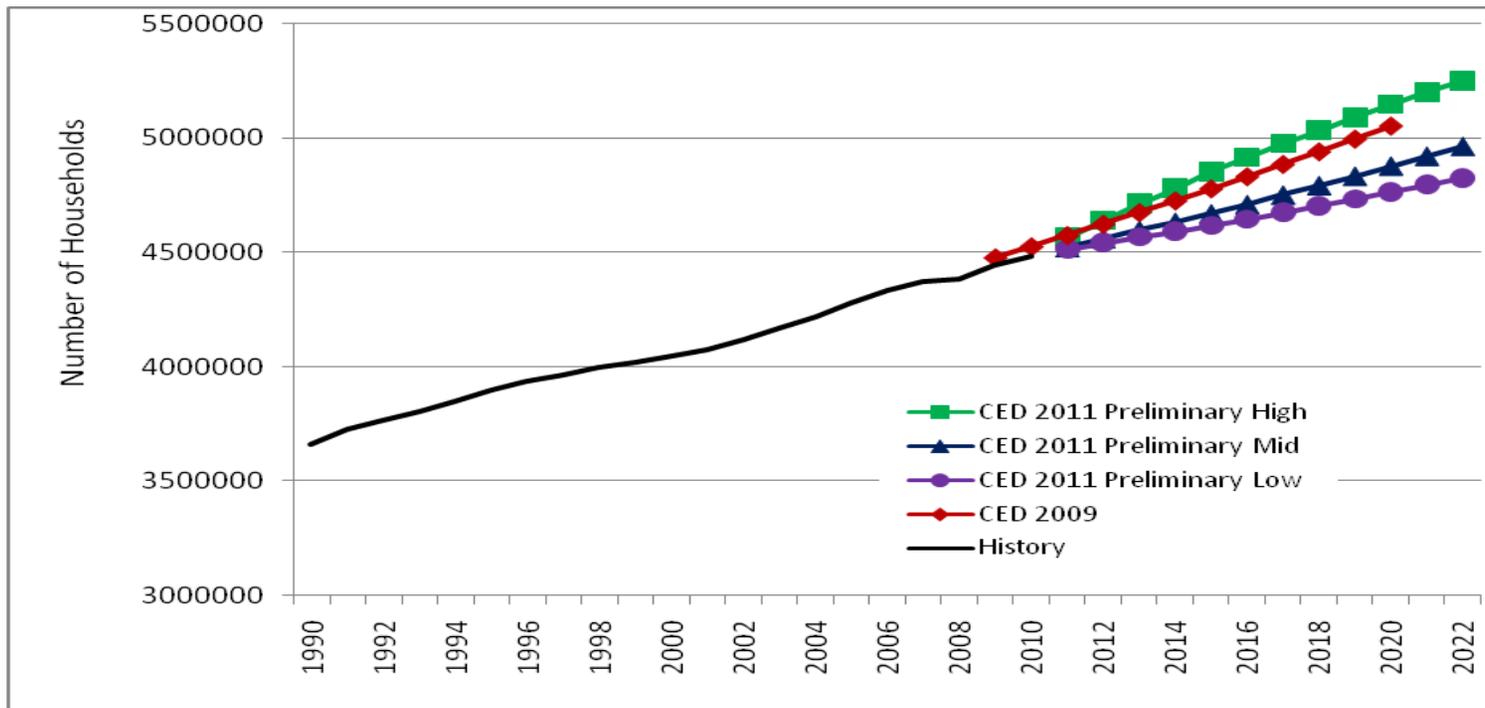


Source: California Energy Commission, 2011



SCE Planning Area Household Forecast

- Mid and low cases grow at a lower rate than *CED 2009*



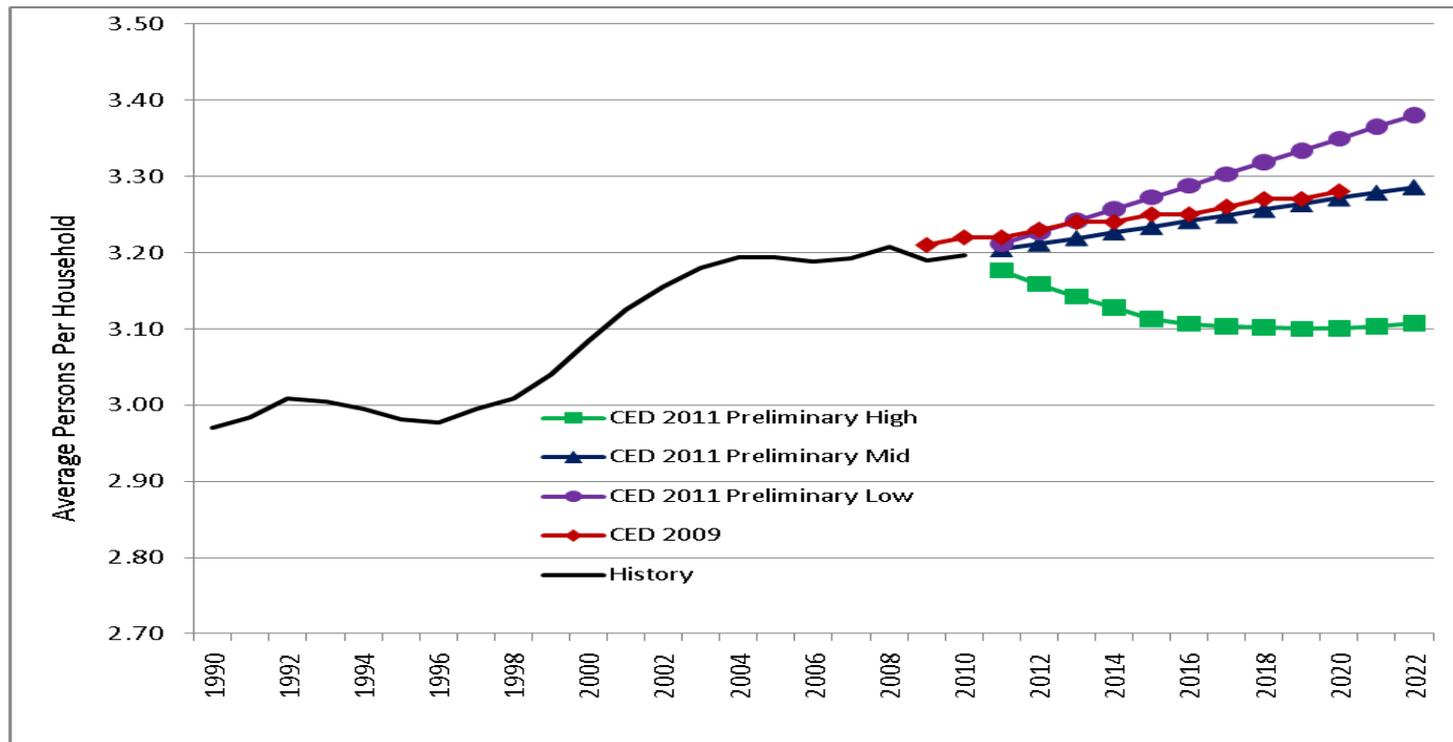
Source: California Energy Commission, 2011



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SCE Planning Area Persons per Household

- Mid and low scenarios derived historic trend analysis
- High scenario from Economy.com projections



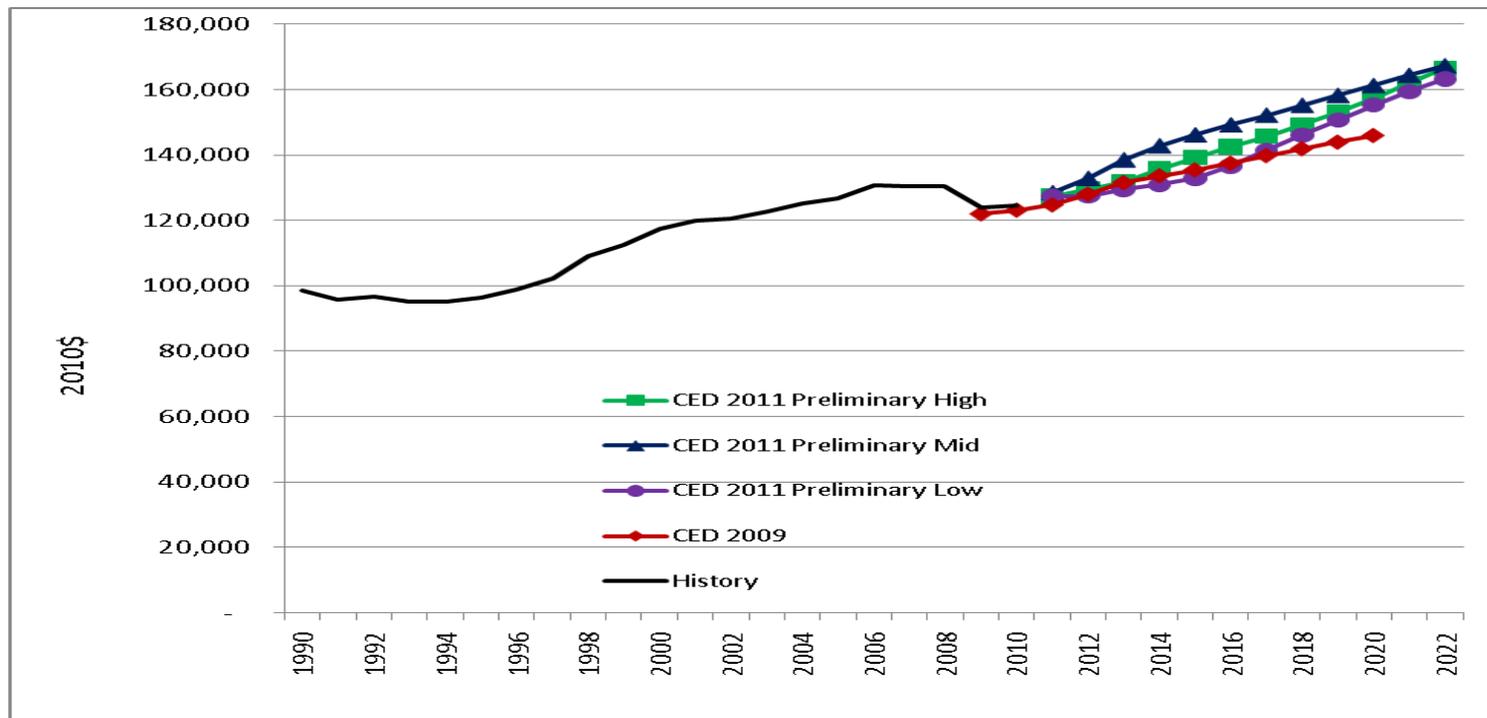
Source: California Energy Commission, 2011



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SCE Household Income

- Higher income in all scenarios than *CED 2009*
- Mid case is highest because of larger drop in pph in high case



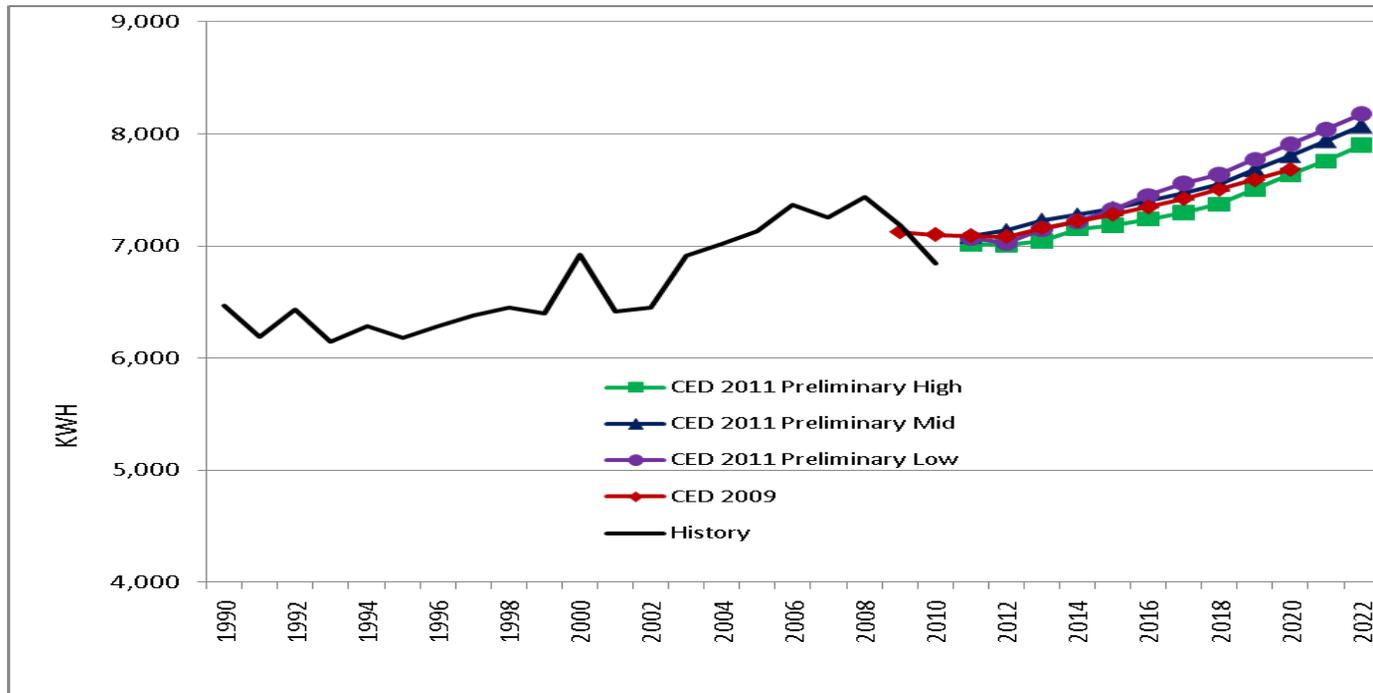
Source: California Energy Commission, 2011



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SCE Residential Use per Household

- Increase caused by projected EV load and increasing income



Source: California Energy Commission, 2011



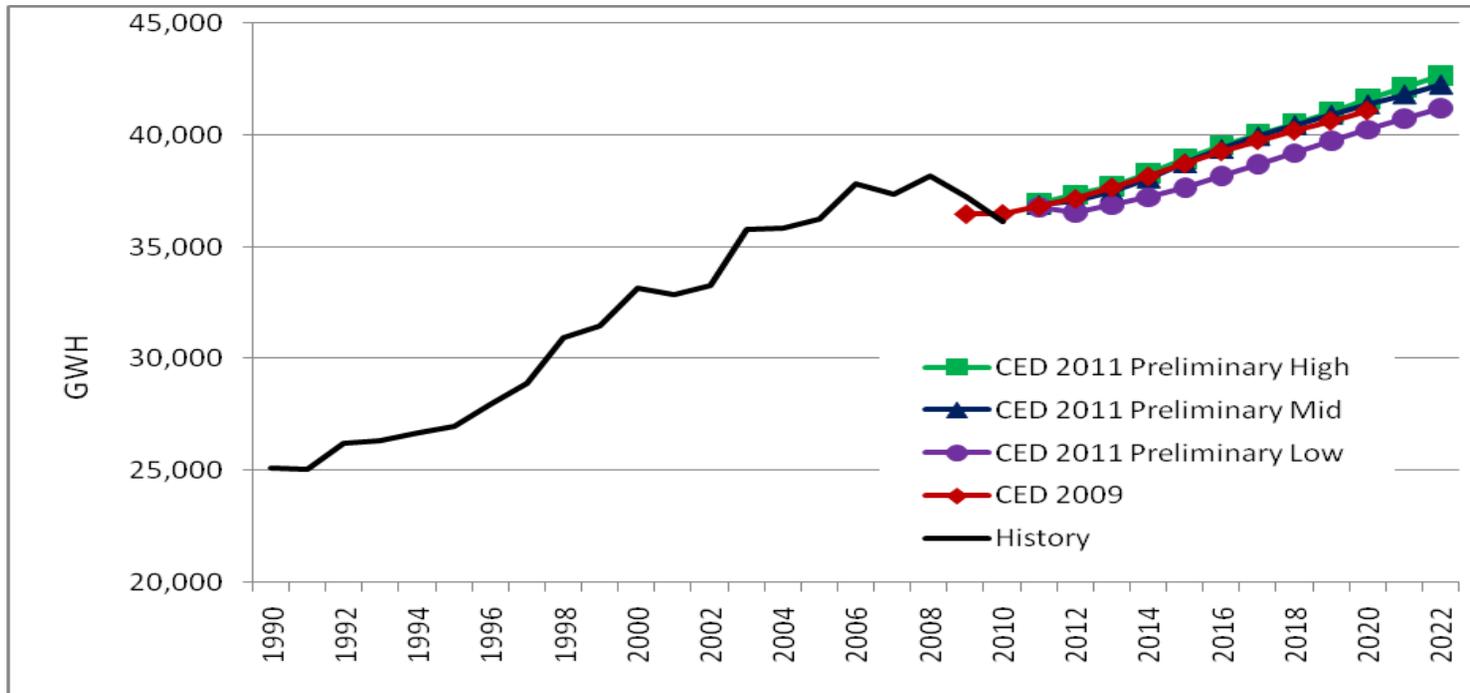
SCE Commercial Building Sector

- 2010 consumption was 1% below *CED 2009* projections
- *CED 2011* growth rates similar to *CED 2009*
- Floor space projections flat thru 2012 then grow at a similar rate to *CED 2009*



SCE Commercial Building Consumption

- Mid and high cases similar to *CED 2009*



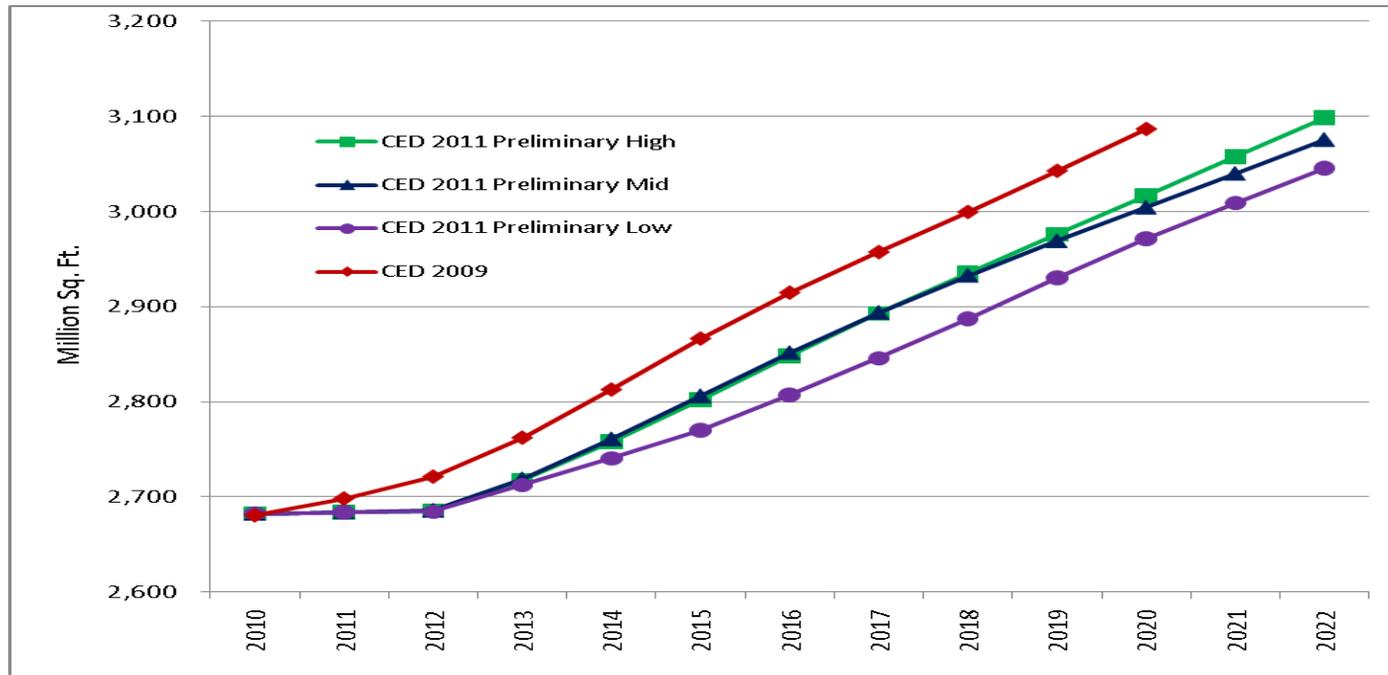
Source: California Energy Commission, 2011



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SCE Commercial Floor Space

- *CED 2011* constant thru 2012 then similar growth to *CED 2009*



Source: California Energy Commission, 2011



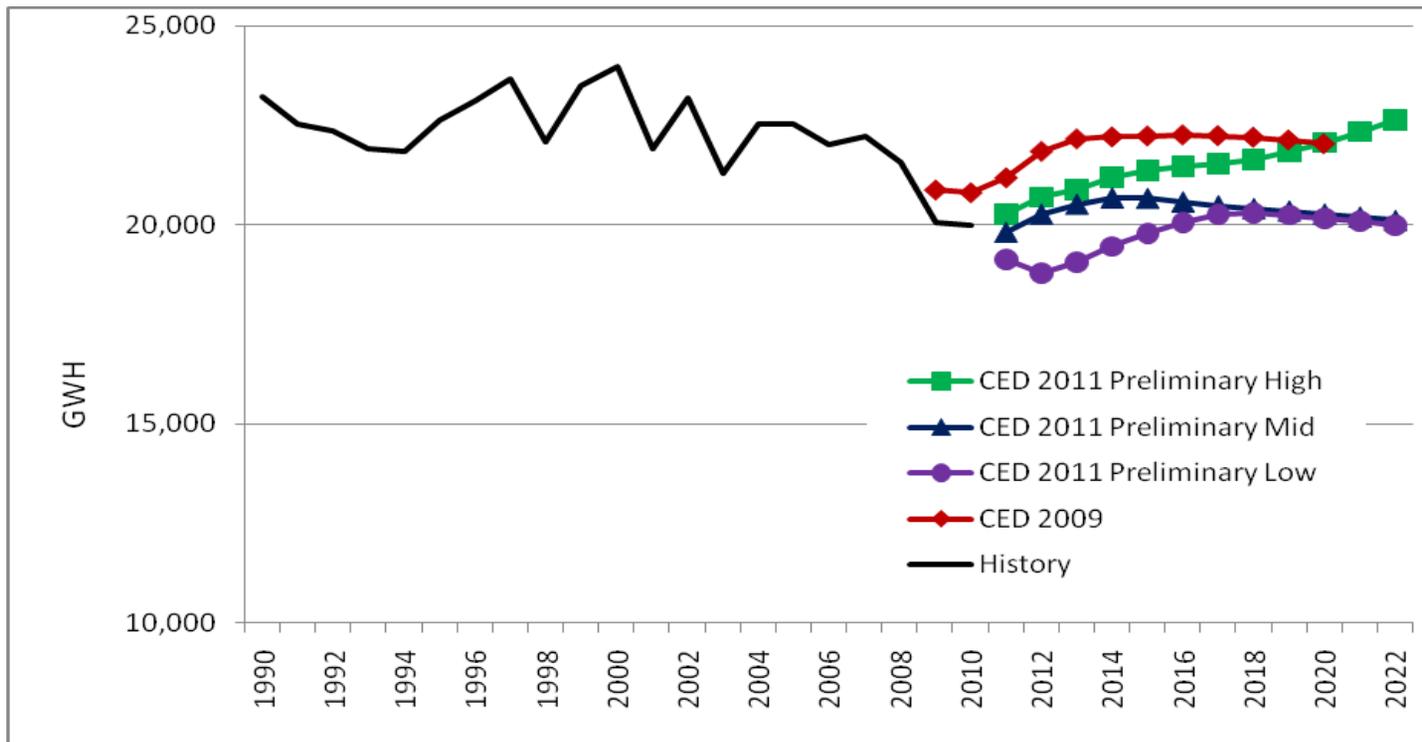
SCE Industrial and Mining Sector

- 2010 consumption was over 4% lower than *CED 2009* forecast
- Mid and low case growth rates decline faster than *CED 2009* in the long term
- Scenario differences driven by difference in output assumptions



SCE Industrial and Mining Sector Consumption

- Lower starting point, lower growth in mid and low cases



Source: California Energy Commission, 2011



SCE Other Sectors

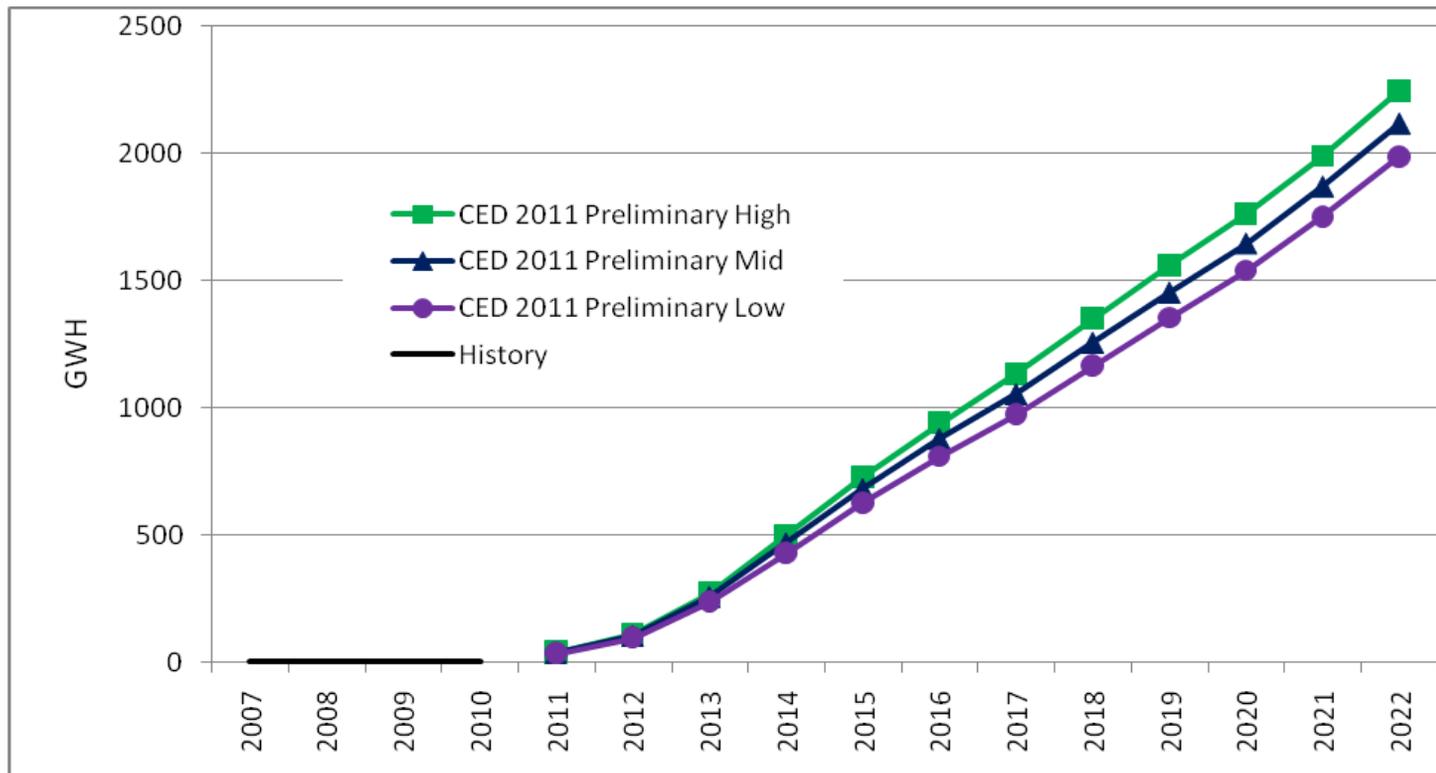
- Remaining sectors comprise 11% of total 2010 consumption:
 - 5% Transportation, communications and utilities (lower starting point)
 - 5.5% Agriculture and Water Pumping
 - 0.5% Streetlighting
- Forecasts have similar growth to CED 2009
- Electric vehicle use is projected to increase total consumption by about 1.9% by 2022 (mostly residential)



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SCE Electric Vehicle Forecast

- Peak impacts are projected to be from 85 MW to 100 MW in 2022



Source: California Energy Commission, 2011



Committed Efficiency Savings and Self Generation

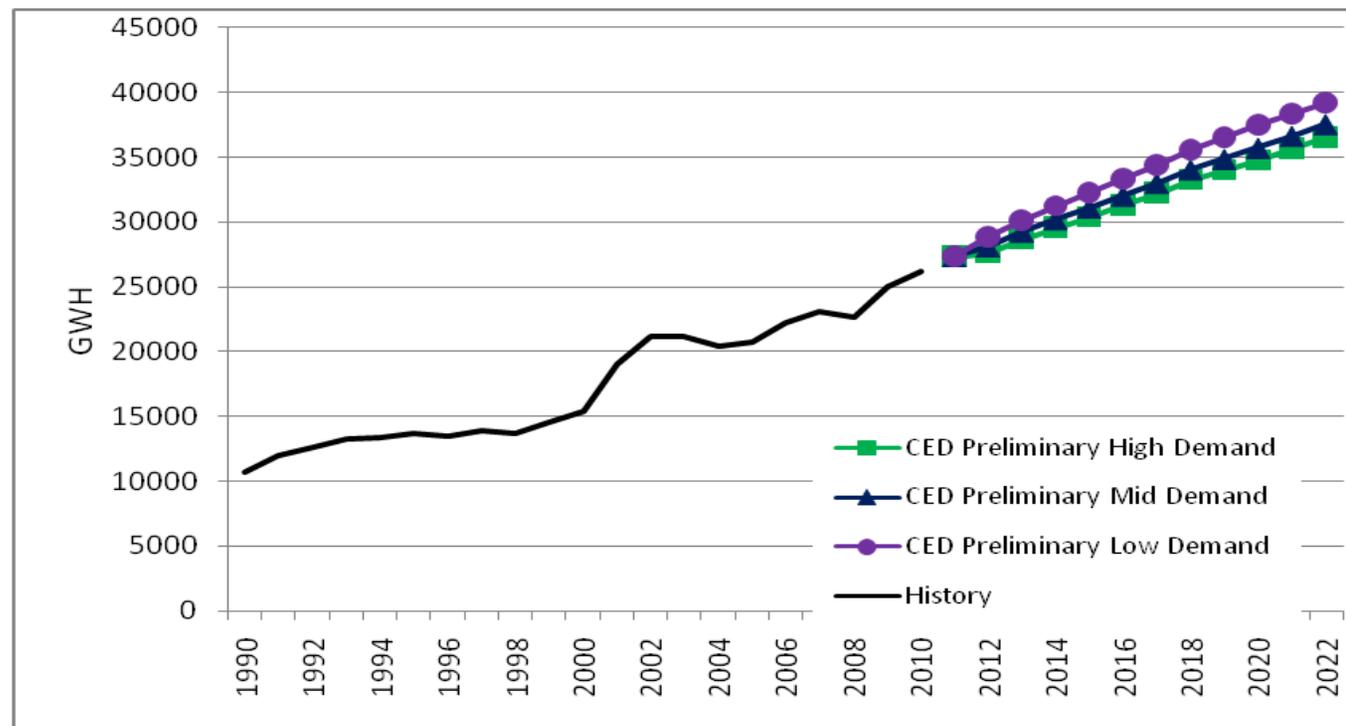
- Committed efficiency savings amount to 30% of consumption and peak by 2022
- 2009-2012 utility program estimates are based on current CPUC filings
- Self generation forecast is based new adoption model



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SCE Committed Efficiency Savings Estimates

- Results follow historic trend



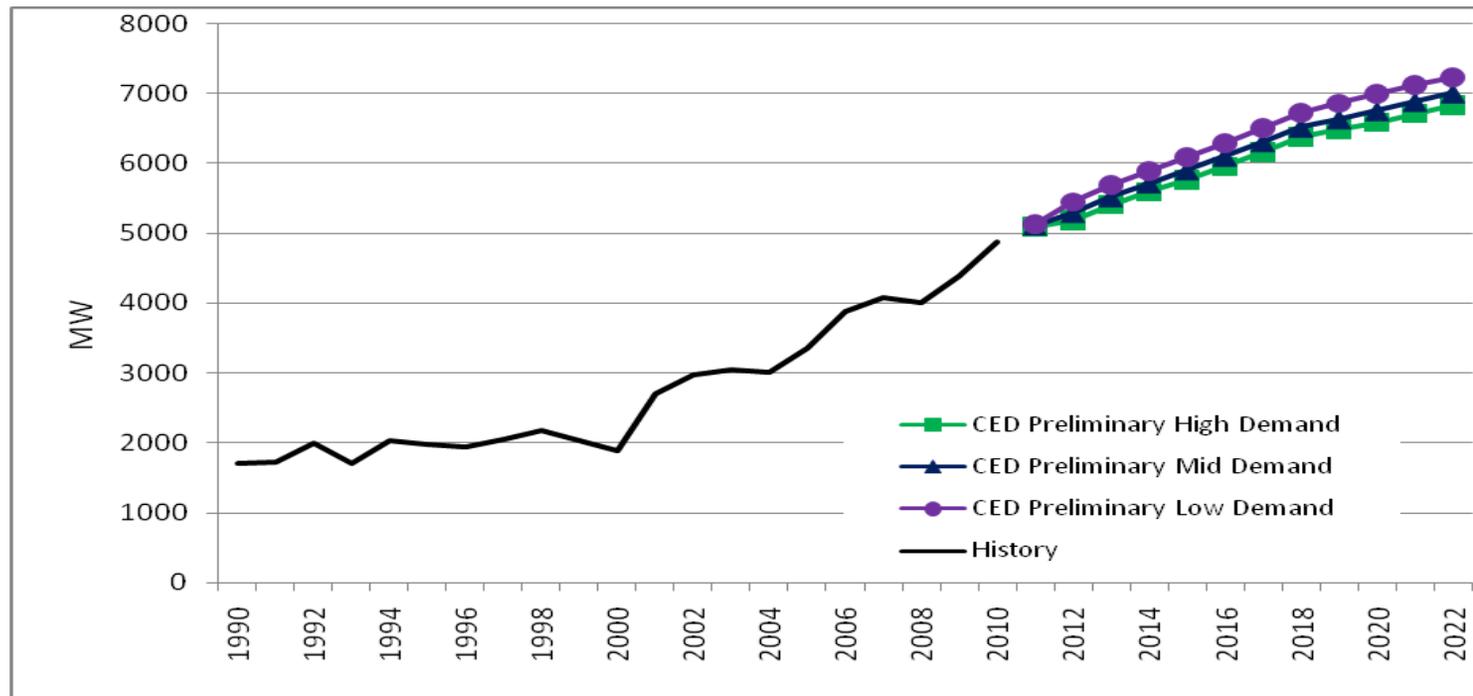
Source: California Energy Commission, 2011



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SCE Committed Efficiency Peak Savings Estimates

- Results follow historic trend of last 10 years



Source: California Energy Commission, 2011



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SCE Self Generation Peak Savings Estimates

- Mid case reduces peak by 4% in 2022

	1990	2000	2010	2015	2020	2022
Non-PV Self-Generation	469.29	503.88	525.43	554.42	573.65	599.57
PV, Low case	0.00	0.26	102.01	295.28	447.74	575.40
PV, Mid case	0.00	0.26	102.01	276.43	388.04	496.97
PV, High case	0.00	0.26	102.01	272.08	365.35	457.01
Total Self-Generation, Low case	469.29	504.14	627.43	849.70	1021.39	1174.97
Total Self-Generation, Mid case	469.29	504.14	627.43	830.85	961.70	1096.54
Total Self-Generation, High case	469.29	504.14	627.43	826.50	939.00	1056.58

Source: California Energy Commission, 2011



Comparison to SCE Forecast

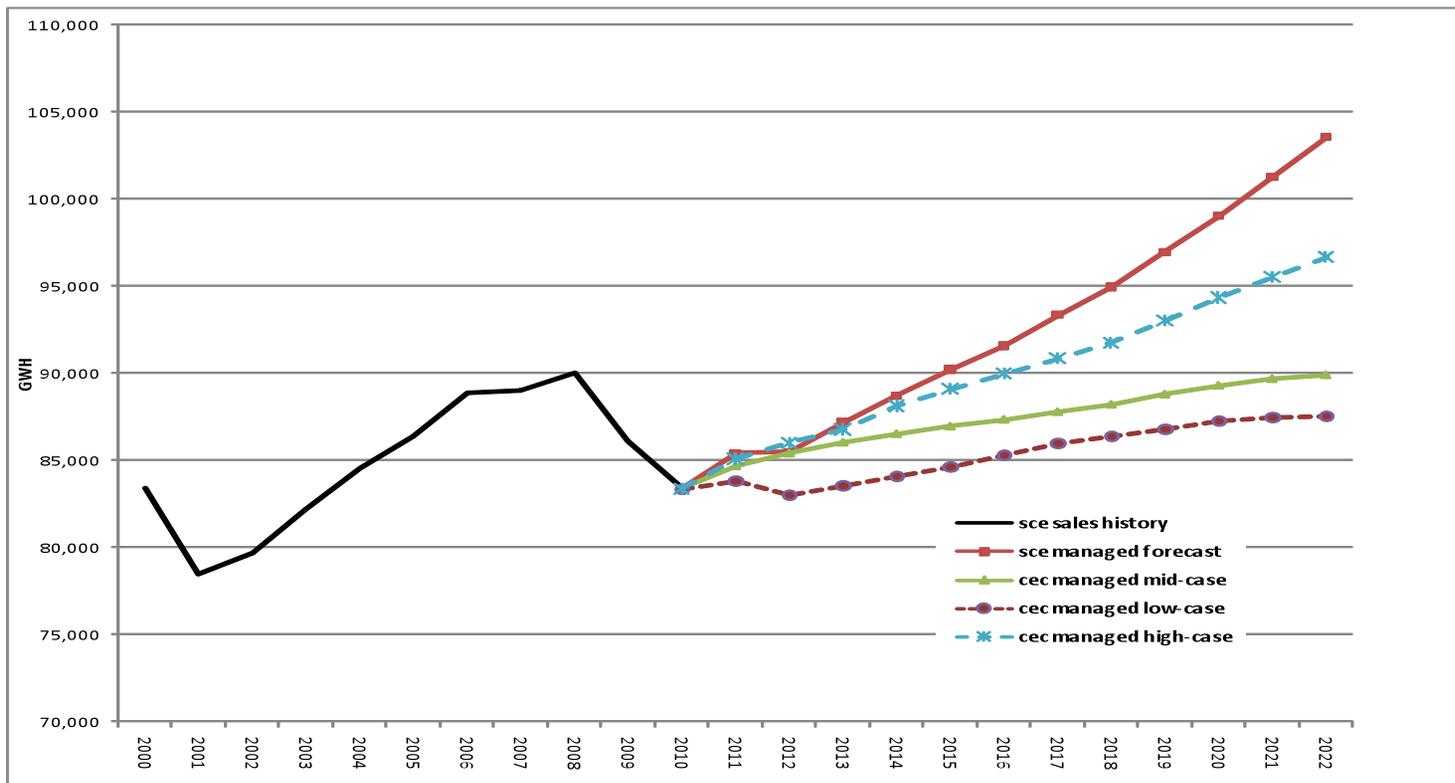
- SCE submitted a managed forecast which includes impacts of both committed and uncommitted programs
- SCE forecast includes about 2,600 GWH of non-EV electrification by 2022 (port and other industrial electrification)
- CEC managed forecast includes uncommitted program savings estimates for purposes of comparison
- SCE managed (including uncommitted efficiency) sales forecast is higher than all *CED 2011* forecast cases
- SCE managed residential forecast is higher than all *CED 2011* scenarios
- SCE managed peak grows at faster rate than all *CED 2011* scenarios after 2012



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SCE Managed Forecast Comparison

• SCE managed forecast higher than all CEC scenarios after 2013



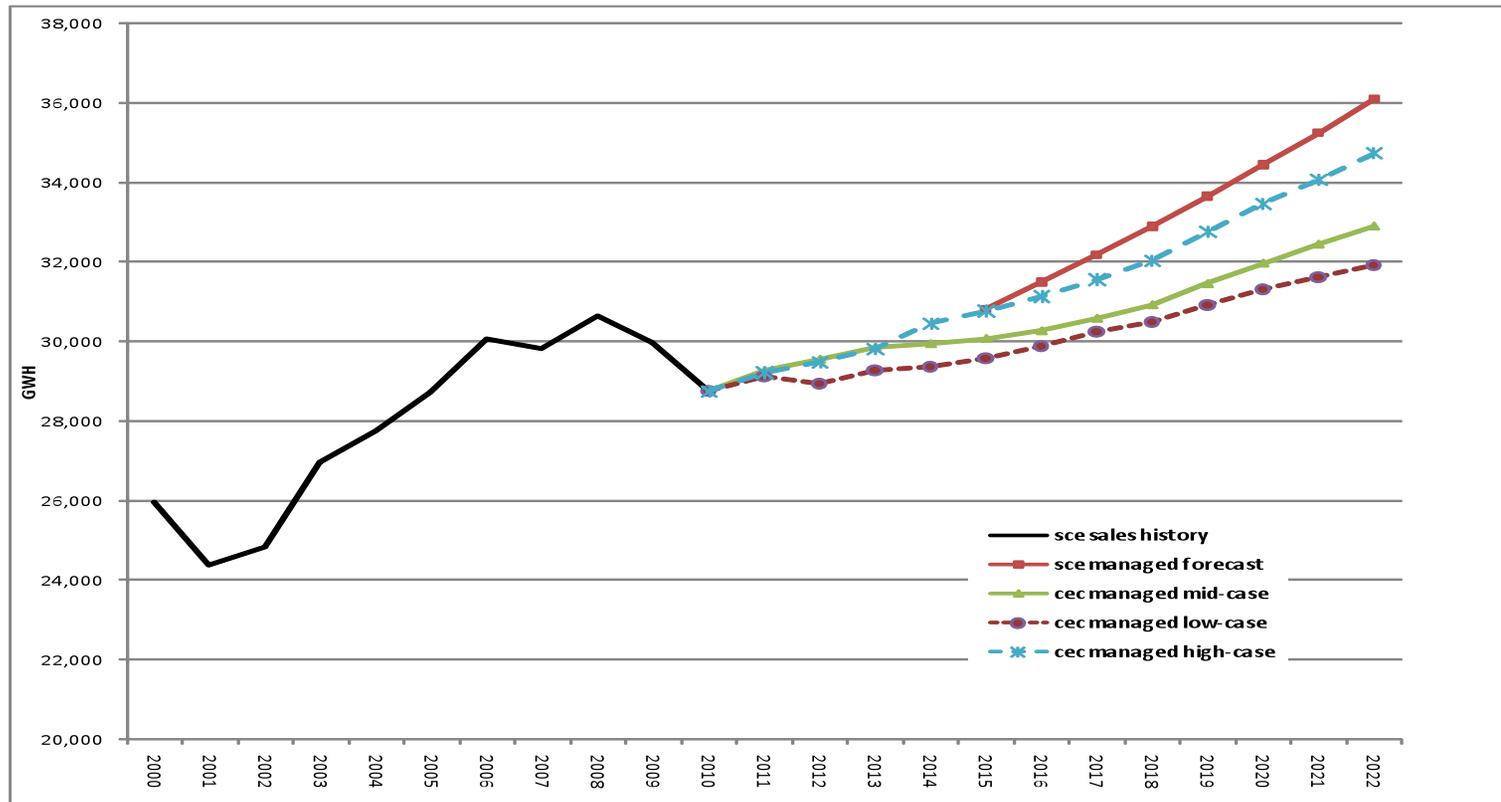
Source: California Energy Commission, 2011



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SCE Managed Residential Forecast Comparison

- SCE projected residential growth higher than all CEC forecasts



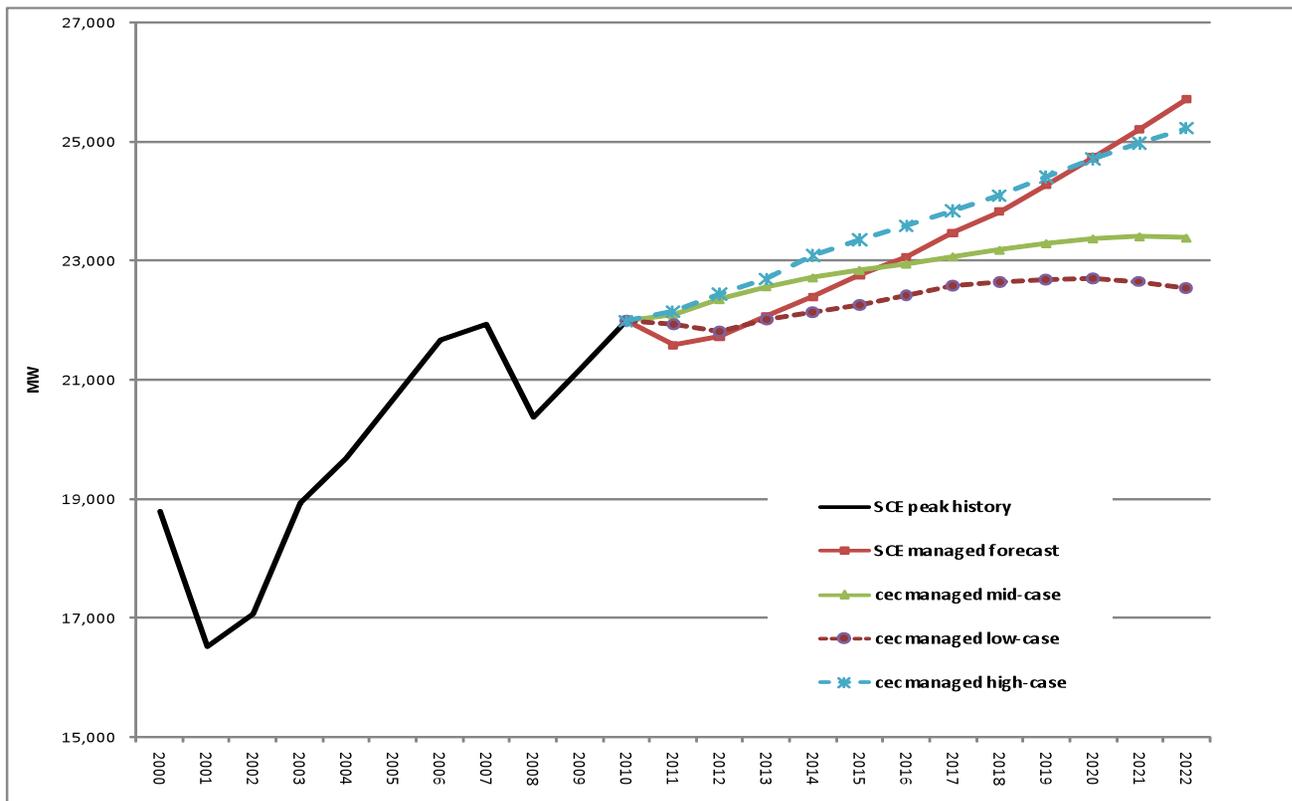
Source: California Energy Commission, 2011



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SCE Managed Peak Forecast Comparison

- SCE managed peak grows faster than CEC after 2012



Source: California Energy Commission, 2011