



California Energy Commission

2011 IEPR Preliminary Electricity and Natural Gas Demand Forecast Rate, Efficiency, and Self-Generation Assumptions

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2011 IEPR Forecast Scenarios

- Low rates, low efficiency, low self-gen in *high demand* scenario
- Mid rates, mid efficiency, mid self-gen in *reference* scenario
- High rates, high efficiency, high self-gen in *low demand* scenario



Natural Gas Rate Scenarios

- Energy Information Administration
- California Gas Report
- Bentek
- 5 Scenarios



Natural Gas Rate Scenarios

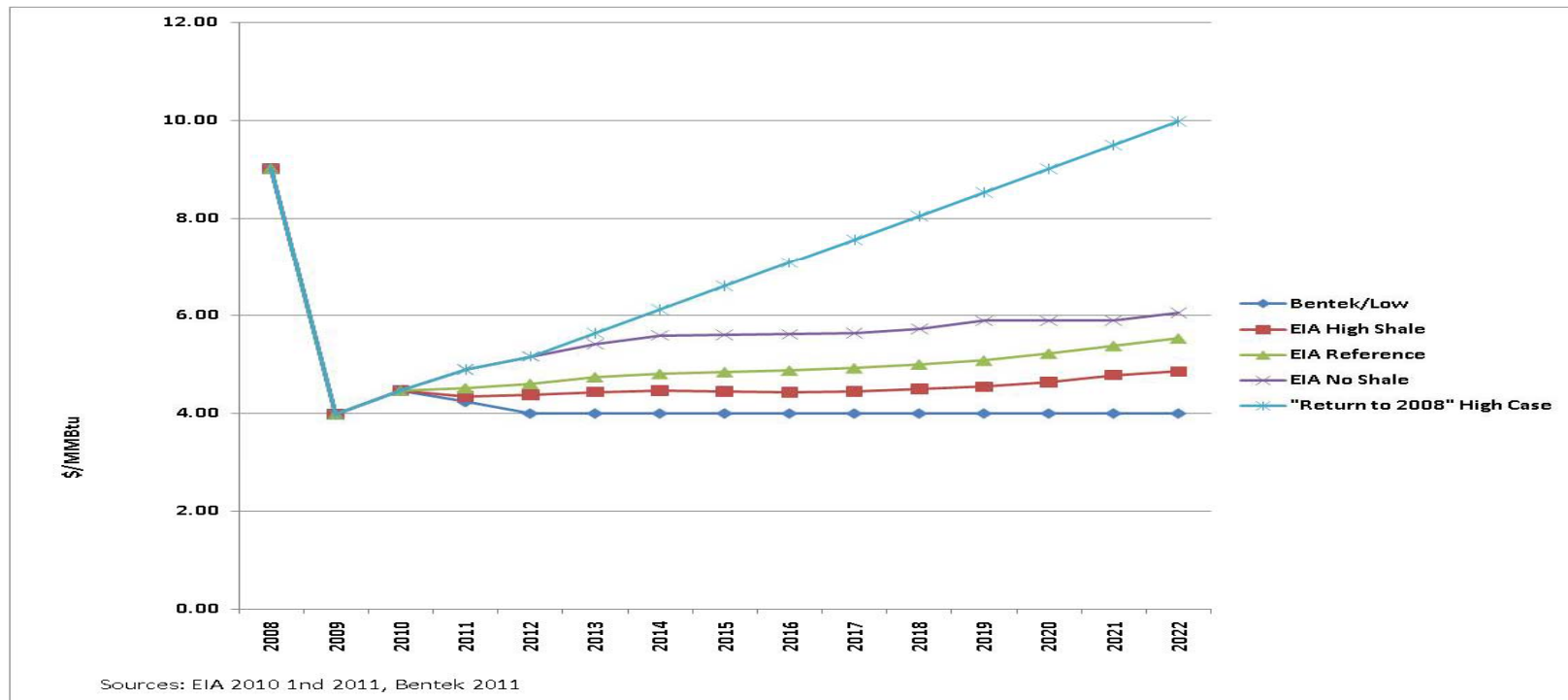
- 1) BenteK/Low Case (higher short-term growth in production vs. EIA Reference Case)
- 2) EIA High Shale Case (twice as many new wells as in the Reference Case)
- 3) EIA Reference Case
- 4) EIA No Shale Case (no new wells in lower 48 after 2010)
- 5) "Return to 2008 Rates" by 2020 High Case



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Natural Gas Rate Scenarios (Henry Hub, 2010\$)

EIA Shale Cases (2010) Benchmarked to 2011 Reference Case





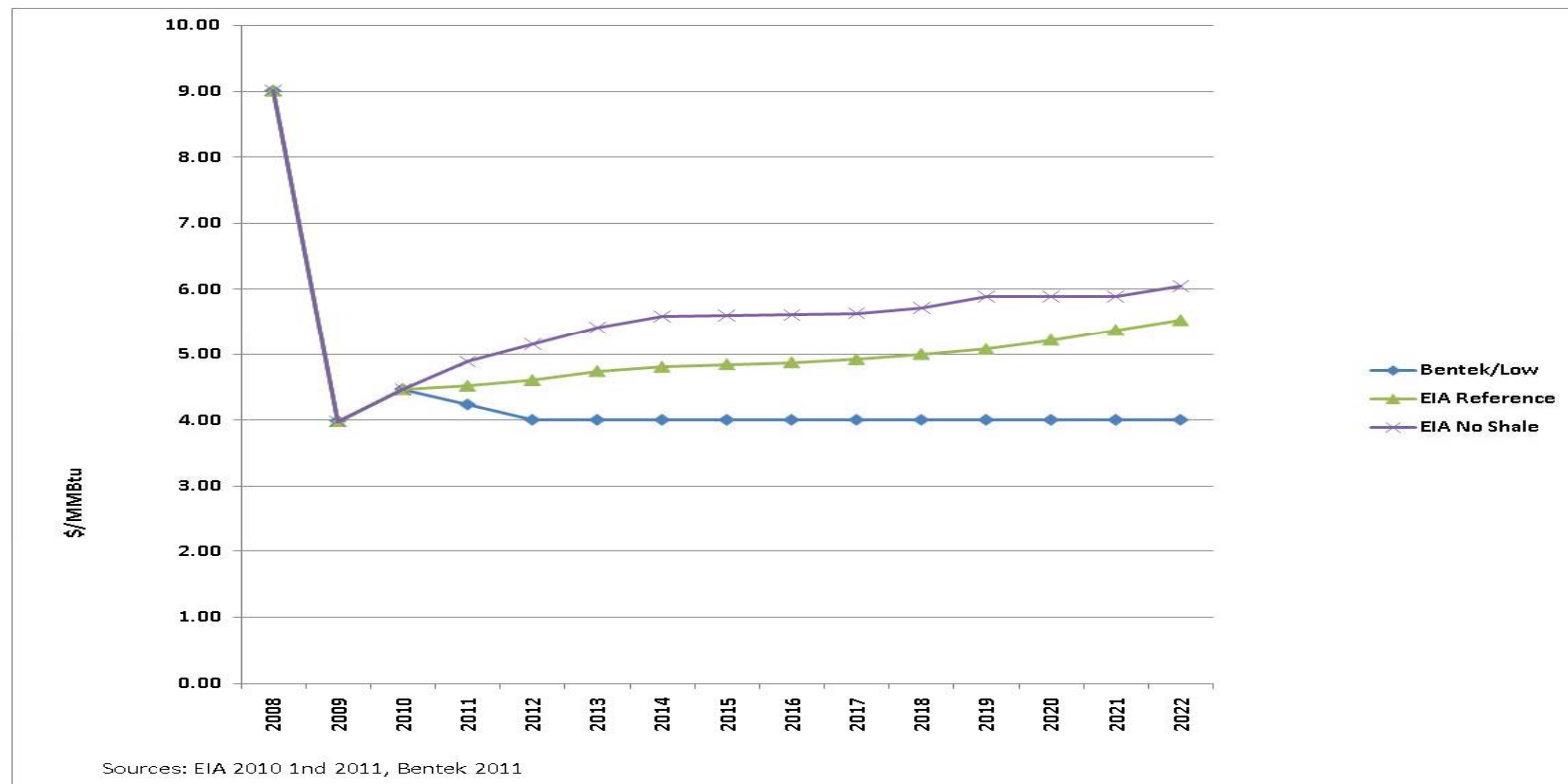
Proposed Natural Gas Rate Scenarios

- Low Rates: Bentek/Low Case (10 percent lower in 2022 vs. 2010)
- Mid Rates: EIA Reference Case (24 percent higher in 2022 vs. 2010)
- High Rates: EIA No Shale Case (35 percent higher in 2022 vs. 2010)



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Proposed Natural Gas Rate Scenarios (HH 2010\$)





Electricity Rate Scenarios

- Used Energy and Environmental Economics (E3) GHG calculator to develop 6 scenarios
- E3 calculator allows user to create scenarios by inputting assumptions for:
 - Efficiency program saving
 - Natural gas rates
 - Electricity demand
 - Renewables
 - CHP
 - Demand response



Electricity Rate Scenarios

- S1: Current efficiency programs only, Bentek/Low natural gas rates, 2010 rooftop PV, current renewables, current demand response, 2009 IEPR CHP
- S2: Low CPUC goals for efficiency, EIA high shale natural gas rates, 2010 rooftop PV, current renewables, current demand response, 2009 IEPR CHP
- S3: Mid CPUC goals for efficiency, EIA reference natural gas rates, rooftop PV at 2009 IEPR levels by 2020, renewables reach 20%, 5% additional demand response, 2009 IEPR CHP



Electricity Rate Scenarios

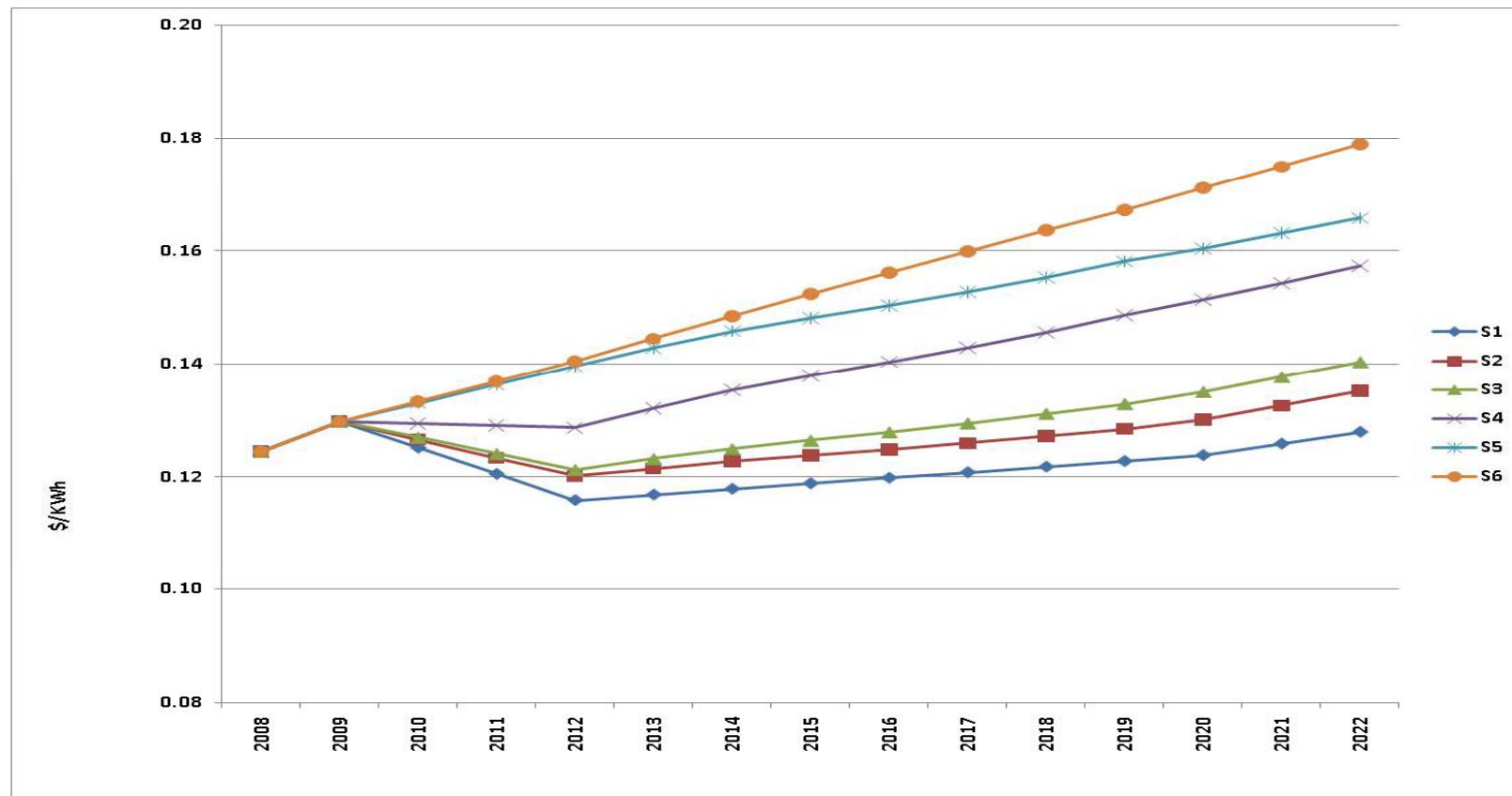
- S4: High CPUC goals for efficiency, EIA No Shale natural gas rates, 3000 MW rooftop PV in 2020, renewables reach 33% by 2020, 5% additional demand response, additional 4,300 MW CHP
- S5: High CPUC goals for efficiency, EIA No Shale natural gas rates, 3000 MW rooftop PV in 2020, renewables reach 33% by 2020, 5% additional demand response, additional 4,300 MW CHP, cap and trade (\$30/ton CO₂)
- S6: Same as S5 except with “return to 2008” natural gas rates



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Electricity Rate Scenarios (2010\$)

5 cent difference btw highest and lowest by 2022





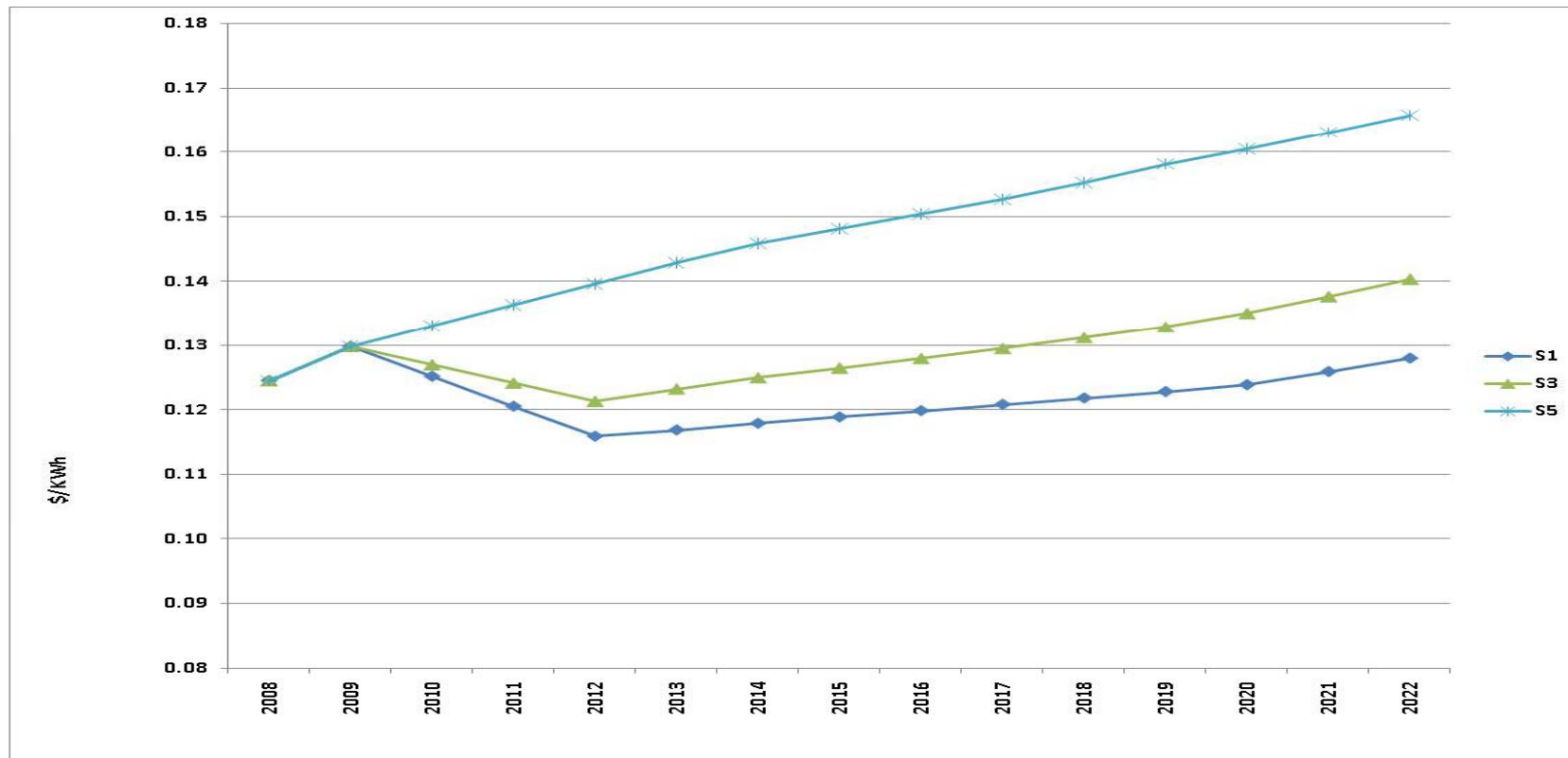
Proposed Electricity Rate Scenarios

- Low: S1—Current efficiency programs only, Bentek/Low natural gas rates, etc. (1% lower in 2022 vs. 2009)
- Mid: S3—Mid CPUC goals for efficiency, EIA reference natural gas rates, etc. (8% higher rates in 2022 vs. 2009)
- High: S5—High CPUC goals for efficiency, EIA No Shale natural gas rates, etc. (28% higher rates in 2022 vs. 2009)



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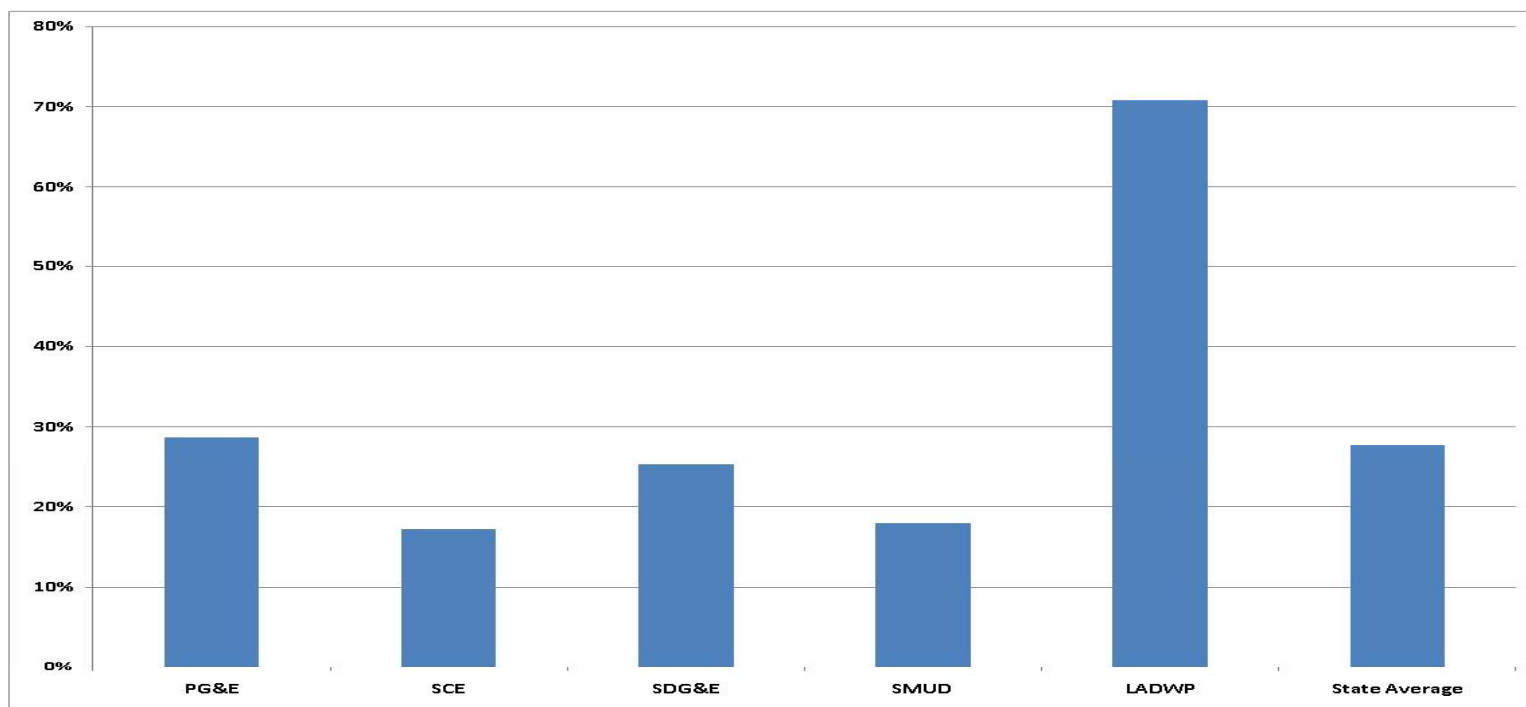
Proposed Electricity Rate Scenarios (2010\$)





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Rate Increase By Major Utility from E3 Scenario S5. % Increase in 2022 over 2009 Largest increase for LADWP





Proposed Efficiency Program Scenarios (2010 and beyond)

- High efficiency savings: use utility reported savings
- Mid efficiency savings: use 2009 IEPR forecast adjustments
- Low efficiency savings: apply CPUC EM&V results
- Guesstimate: 5,000-10,000 GWh difference between high and low in 2012



Uncommitted Efficiency

- Rely on work for 2009 IEPR—no new Goals Study
- IOUs plus LADWP and SMUD
- Two previously uncommitted initiatives, 2010 Title 24 update and Huffman Bill (through Title 20) now part of committed efficiency



Self-Generation

- Rooftop PV: Predictive model—3 scenarios corresponding to 3 rate scenarios.
- CHP: further discussion on March 8