California Energy Commission

2011 IEPR Preliminary Electricity and Natural Gas Demand Forecast

Rate, Efficiency, and Self-Generation Assumptions

IEPR Workshop

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

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

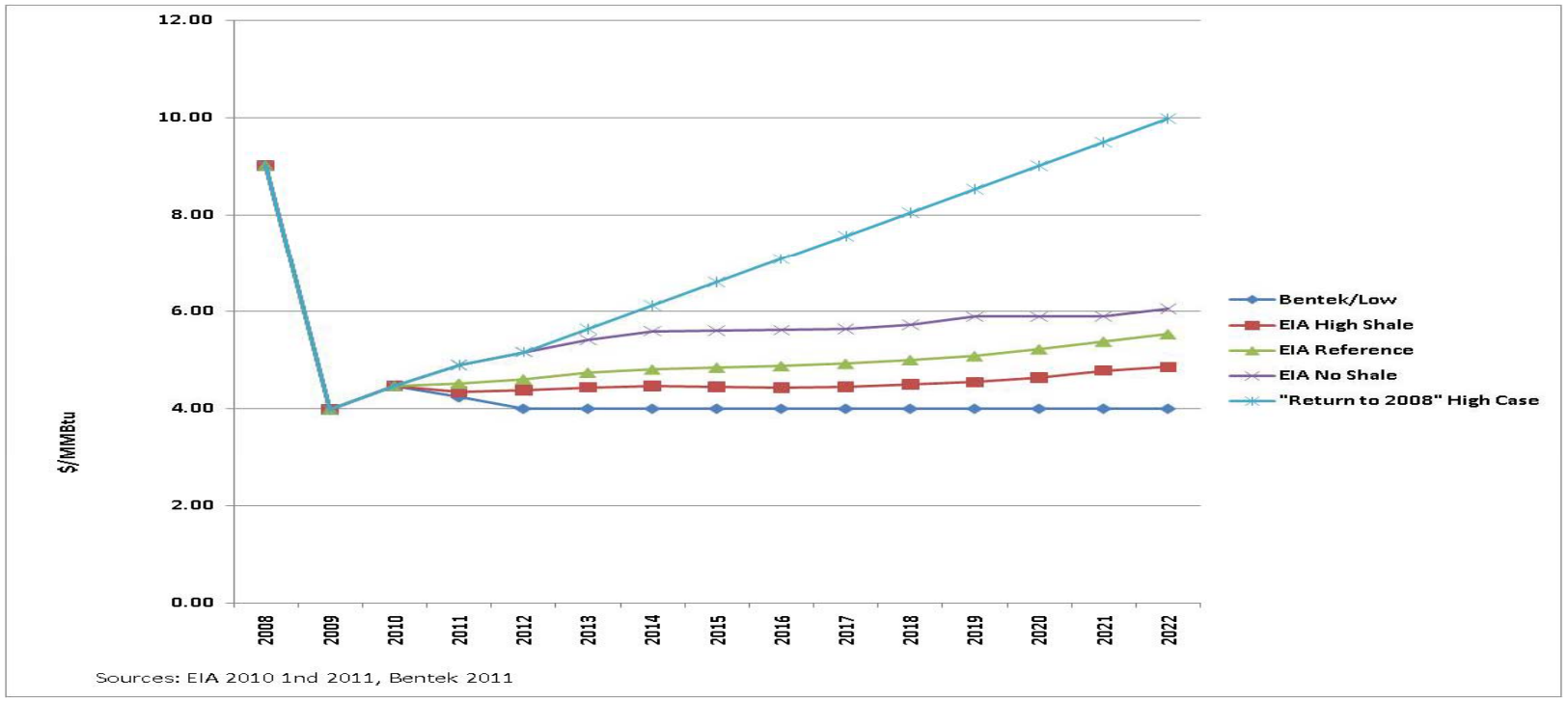
- Energy Information Administration
- California Gas Report
- Bentek
- 5 Scenarios

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

Natural Gas Rate Scenarios (Henry Hub, 2010$)

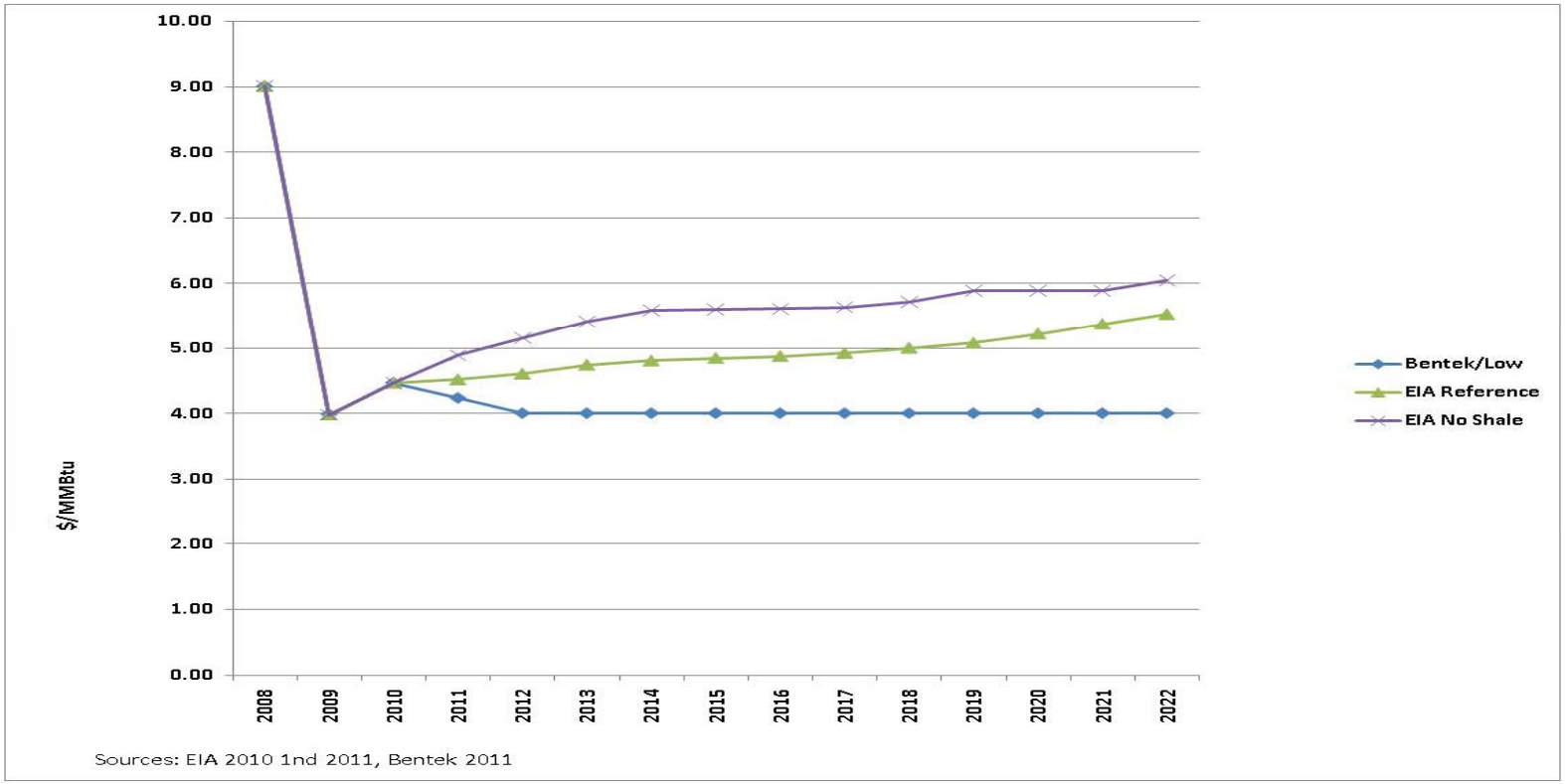
EIA Shale Cases (2010) Benchmarked to 2011 Reference Case



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)

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

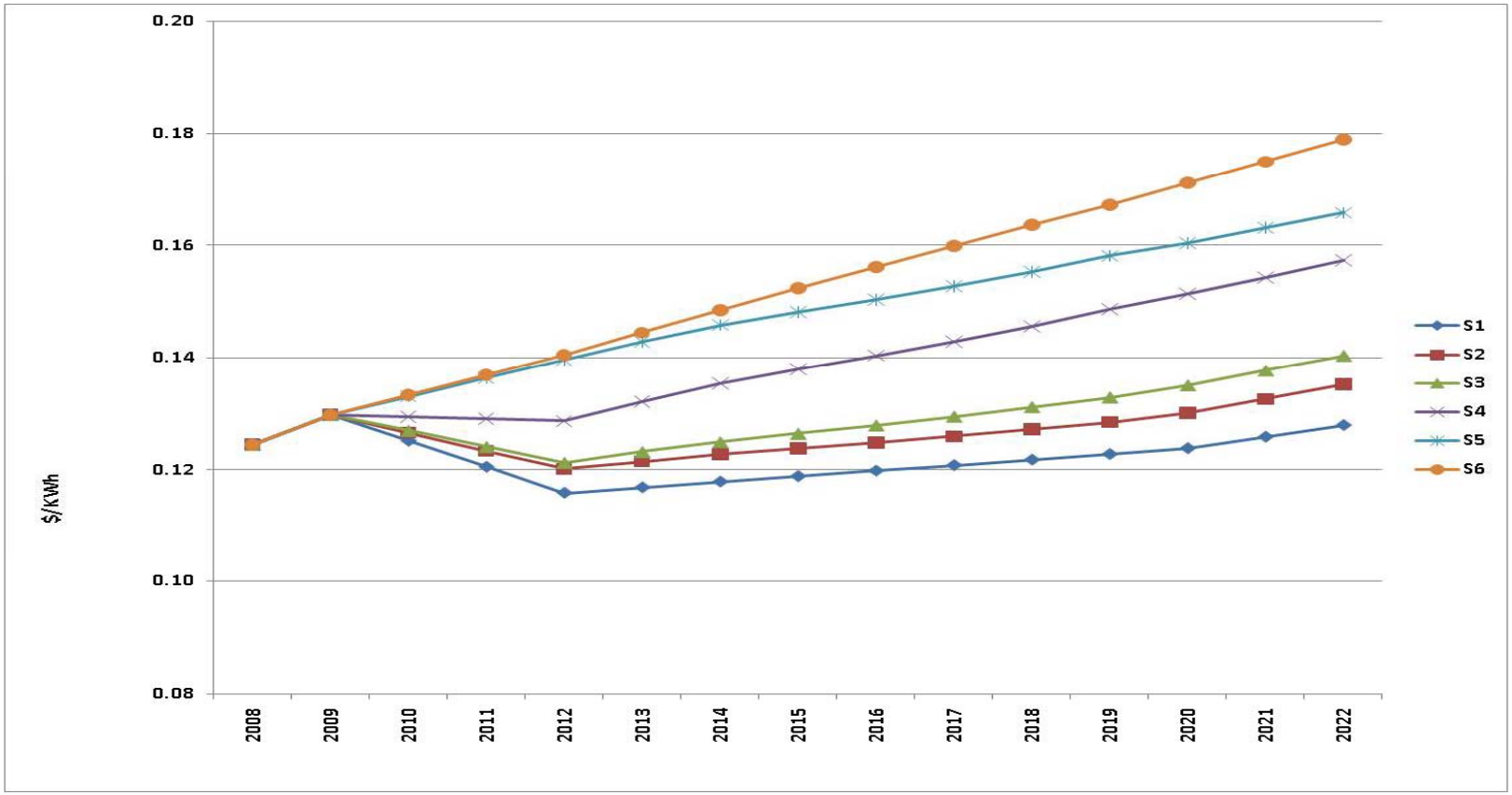
- S1: Current efficiency programs only, Bentek/Low natural gas rates, 2010 rooftop PV, current renewables, current demand response, 2009 IEPR CHP
- S2: Low CPUC goals for efficiency, EIA high shale natural gas rates, 2010 rooftop PV, current renewables, current demand response, 2009 IEPR CHP
- S3: Mid 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

Electricity Rate Scenarios (2010$)

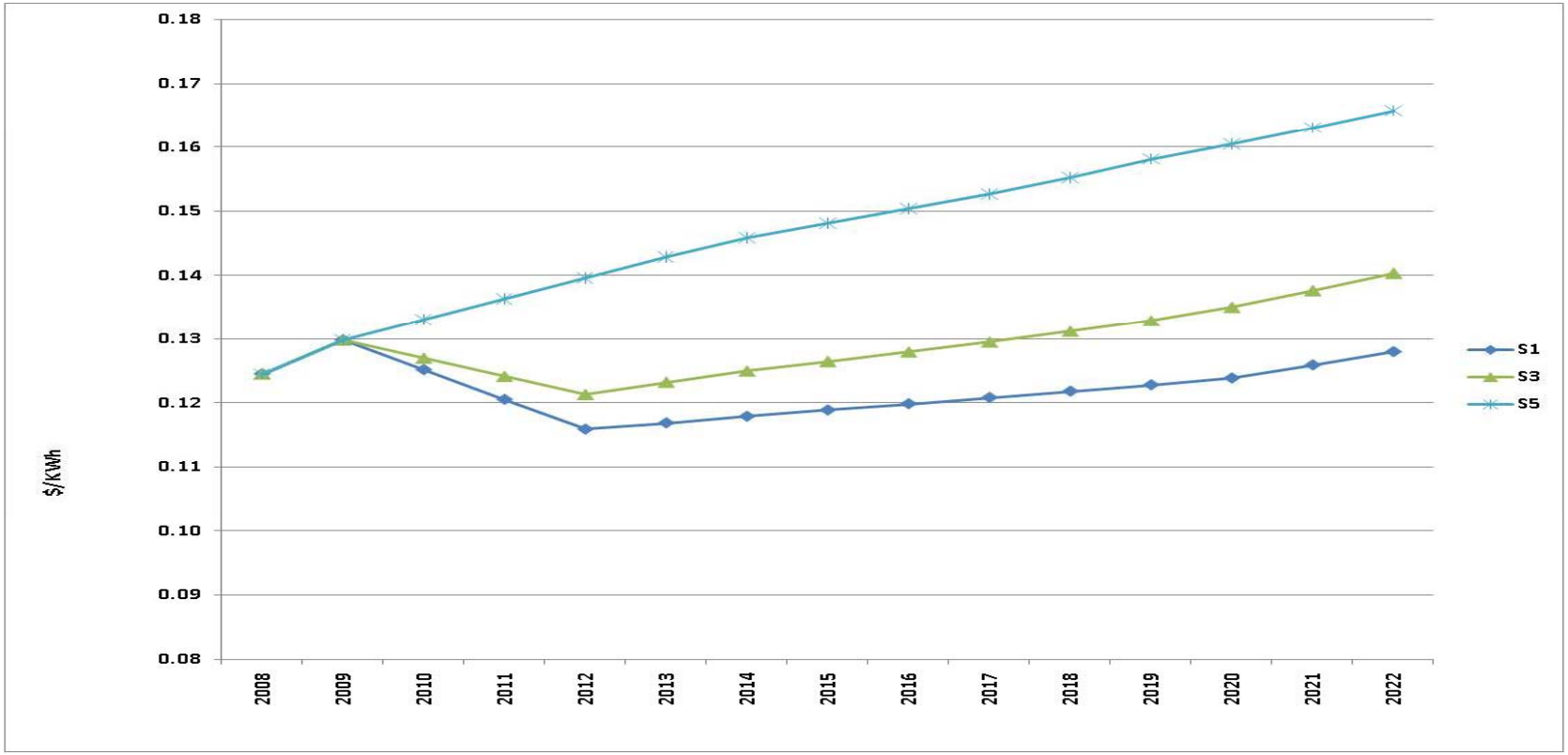
5 cent difference btw highest and lowest by 2022



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)

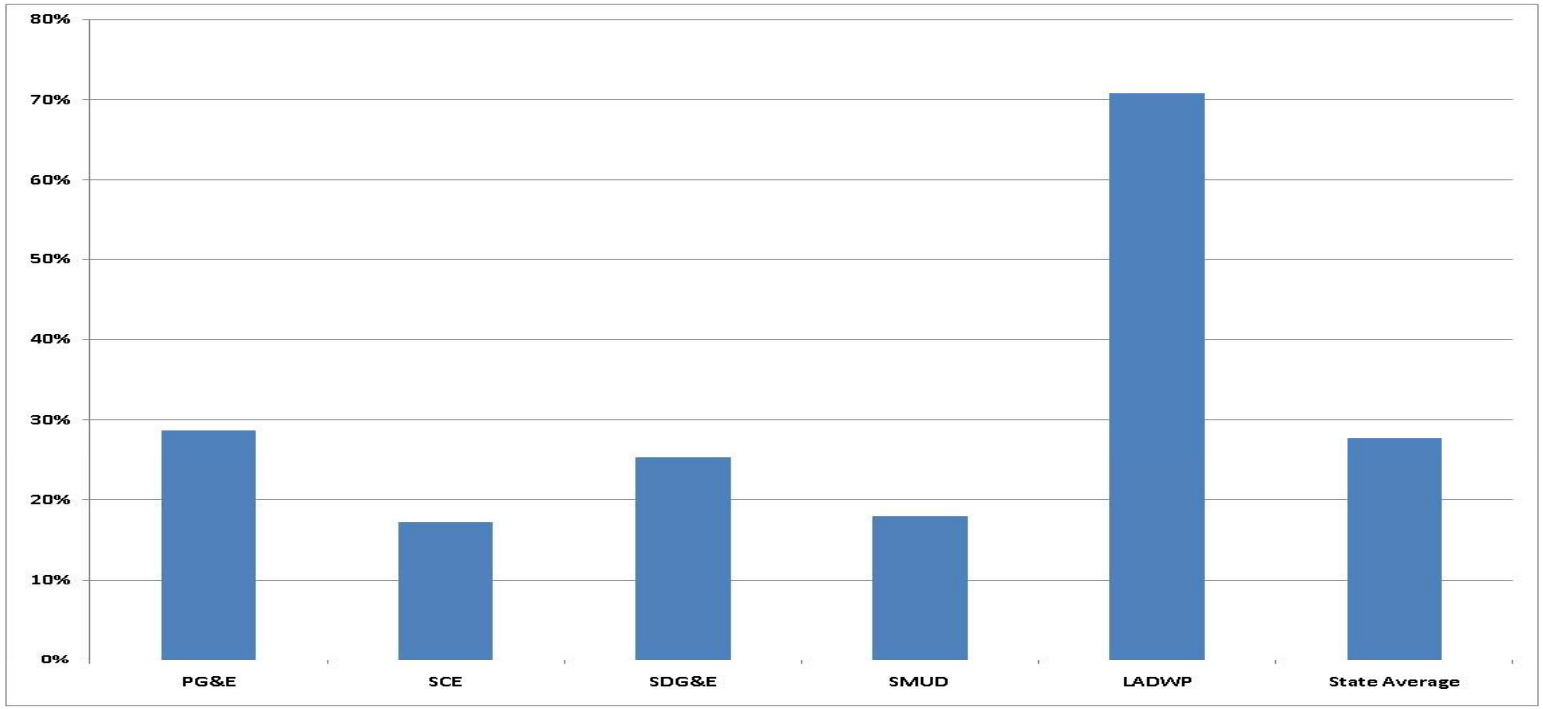
Proposed Electricity Rate Scenarios (2010$)



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