

**Bottorff, Thomas E**

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**From:** Bottorff, Thomas E  
**Sent:** Monday, April 06, 2009 5:27 PM  
**To:** Darbee, Peter (Corp)  
**Cc:** Keenan, Jack; Burt, Helen; McFadden, Nancy; Pruett, Greg S. (Corp); Kline, Steven L. (Corp); Yura, Jane; Loduca, Janet C.; [Redacted] Cooper, Shawn (Corp)  
**Subject:** Energy Use In California

Peter,

After your appearance at the ECO:nomics conference in early March, you asked for a more rigorous analysis of the factors that have led to lower electricity use in California compared to electricity use in other parts of the country. Based on our own research and a paper prepared by Anant Sudarshan and James Sweeney of the Precourt Institute for Energy Efficiency Studies at Stanford University, we discovered the following:

- As you predicted, climate is not the primary driver of lower electricity use among residential customers in California. However, it is a key driver and accounts for about 25% of the difference between electricity use here and electricity use elsewhere in the US.
- The remaining difference in electricity use (75%) is due to demographic factors (e.g.; home size, persons per household, etc.), fuel choice (gas vs. electricity), and energy policy (such as energy efficiency programs and building standards).

A complete breakdown of the differences is summarized below.

**Factors Explaining the Difference Between Lower Residential Electricity Use Per Person in California vs. Residential Electricity Use Per Person in the US. (percentages are approximate)**

Milder climate (25%)  
Reliance on gas instead of electricity for water and space heating (15%)  
Smaller homes (20%)  
More persons per household (20%)  
Energy efficiency and building standards (15%)  
Other (5%)

When these factors are combined, they result in residential electricity use per person in California that is 55% less than average electricity use per person in the US. As a consequence, even though PG&E's rates are 42% higher than the national average, our average residential bill is 15% lower than the national average.

A team led by Jane Yura, Janet Loduca, and [Redacted] performed the analysis that supports this conclusion. If you would like additional information, please let me know.

Tom