

**DOCKETED**

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**Avoid panel and grid upgrades by promoting simple use of NEC  
220-87**

*Additional submitted attachment is included below.*



February 9th, 2026

## Comments from Home Energy Analytics on the **Draft 2025 Building Energy Action Plan**

Submitted by Steve Schmidt (steve@hea.com)

Home Energy Analytics (HEA) helps California homeowners reduce their energy use and plan for the full electrification of their homes by providing detailed analysis of their smart meter data (both electric and natural gas). To date we have assisted over 50,000 Californians through our HomeIntel service, which PG&E provides at no cost to their residential customers.

**Summary:** The draft report claims that load calculations required for electrification **using actual meter data** are difficult to perform. In our experience this is (1) not true, and (2) could be made far simpler by requiring electric utilities to provide “peak demand” data to their customers.

**Details:** HEA respectfully submits comments on the section in the Draft Document regarding load calculations, found on page 85 (emphasis added, in bold):

The metered-demand approach (Section 220.87) can be advantageous because it provides an accurate representation of peak loads based on actual consumption and usage. This approach usually results in a lower calculated peak load than the bottom-up calculations. However, this approach **requires installing data collection hardware** unless the meter data can be obtained from the utility. **Applying the metered-demand approach is technically challenging and time consuming** for most building owners since **they must obtain and analyze their hourly consumption data**. Better access to these data for building owners would support more realistic estimates of existing building peak power and help reduce unnecessary panel and service capacity upgrades.

HEA disputes the highlighted statements, as follows:

### **(1) ...requires installing data collection hardware...**

HEA believes this is **very rarely required** for single family homes. California has invested billions to have smart meters installed at most homes & businesses. Some of the electric smart meters only report hourly data (instead of the preferred 15-minute data), but this is ok: hourly data can be used when a year of prior data is available, as is often the case for retrofits. Plus, LBNL and others have shown that hourly data could be adjusted to be as safe and conservative as the preferred 15-minute data.

### **(2) Applying the metered-demand approach is technically challenging and time consuming...**

HEA has provided this calculation to many thousands of PG&E customers since April 2022.

It is a very simple equation:

Take the highest demand peak over the past year and multiply it by 1.25.

The resulting figure indicates the maximum "power capacity" utilized by an existing building over the prior year. Subtract this figure from the building's maximum capacity (based on the size of panel or the main disconnect) and you have the "remaining capacity". **This figure is incredibly useful** at the start of the electrification process, conveying the "power budget" available for the electrification of existing natural gas devices with the home's **existing infrastructure**.

Note 1: NEC code specifically requires 15-minute data be used for the shorter 30-day alternative defined in 220.87, but **hourly** figures for **the prior year** can be used. To be conservative, such hourly figures could be adjusted with a safety factor. HEA adjusts hourly data with a 30% safety figure (peak values multiplied by 1.3) and LBNL has proposed a slightly more complicated approach.

Note 2: HEA is a member of the [EPIC Panel Tool Project](#) team (headed by Build It Green) which is documenting all this in much more detail via reports and open source software.

**(3) ...they must obtain and analyze their hourly consumption data...**

Maybe not – there is a much simpler option.

This somewhat complicated step could be completely avoided if all electric utilities in CA were required to communicate "peak demand" on their bills, via their customer portals, or both.

**At least two CA utilities do this already** for all customers: SDG&E and PAU (Palo Alto Utilities); see example screenshots below.

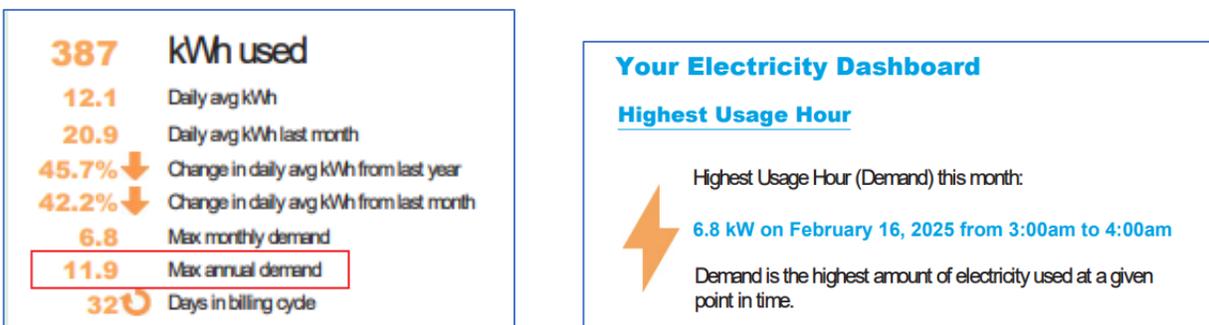


Figure 1: Two sections of SDG&E bill showing Peak Demand for past year and month

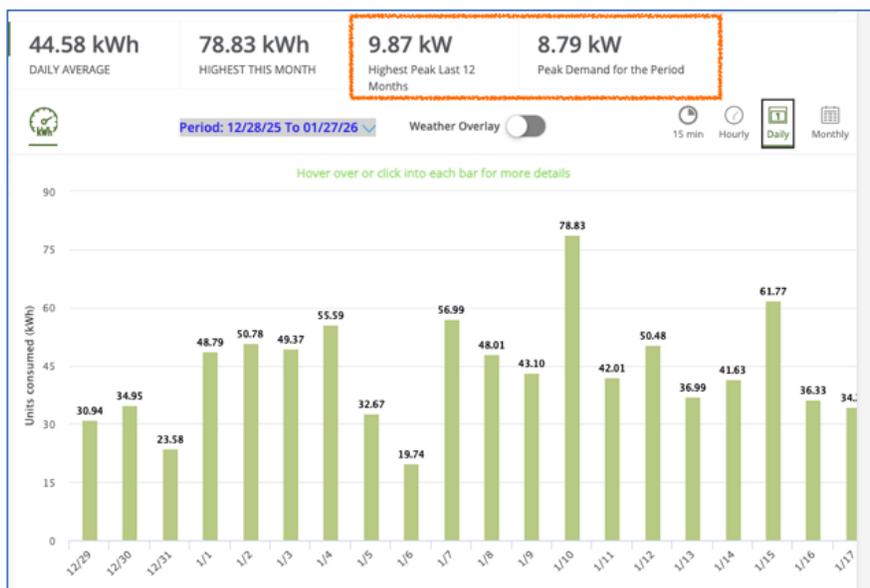


Figure 2: Palo Alto Utilities Bill showing peak demand for past year and month

With this simple requirement, any electrician could ask a customer for a copy of their latest bill and have all the information needed to calculate 220.87 and determine the home’s remaining power budget for electrification.

Once the power budget is known in this way, with **actual data** (not **modeled**, via 220.83), new Power Efficient Design methods can be utilized to avoid panel upsizing. Reduced panel upsizing during electrification retrofits will reduce the need for transmission & distribution upgrades, providing great savings – potentially many \$billions -- to all Californians.

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**Conclusion:** California should leverage our existing meter data to avoid unnecessary infrastructure upgrades to homes and to our electric grid. Requiring our electric utilities to provide “peak demand” information on bills is the best approach to accomplish this goal.

With respect,

Steve Schmidt  
 Founder & COO  
 Home Energy Analytics, Inc.