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Additional Smart Meters needed for residential PV and EV charging

Thank you for the excellent plan to promote decarbonization through electrification and energy efficiency.

Since 2010 Home Energy Analytics (HEA) has helped Californians reduce home energy use via smart meter analytics, and is thrilled to be a program administrator for PG&E's "trial pay-for-performance program" described on page 58. Early results exceeding 10% energy savings support the view that these new smart meter-based efficiency programs will provide a "very positive and potentially transformative" path toward doubling energy efficiency.

However there is a looming threat to widespread use of smart meter data to "determine the energy consumption profiles of different customers". As more Californians install solar PV and charge EVs, the data coming from the single smart meter on their homes becomes confounded by these two major new loads (PV generation and EV charging), making NMEC-based analysis impossible.

Examples of this confounding:

1. Home A's energy use dropped between 2pm and 4pm: was this the result of a behavioral energy efficiency measure (e.g. reducing the pool pump run time), or did they cut down a tree that was shading their PV system?

2. Home B's energy use increased from 10pm to midnight: was this due to a new inefficient plug load, or are they now driving their EV more than the old gas guzzler?

In both cases the answer is unknowable from a single smart meter, but could be determined if PV generation and EV charging were separately metered.

HEA currently has residential pay for performance contracts with three of the state's IOUs. Today, homes with residential PV systems or electric vehicle charging are contractually disqualified from participation in these innovative NMEC-based programs. This currently effects a relatively small percentage (10-15%) of California homes. But if all goes well, a majority of Californian homes will soon have one or both of these improvements and will thus become ineligible for NMEC-based EE.

To prevent the disqualification of these homes from NMEC-based efficiency programs, these two loads must be sub-metered with revenue grade smart meters, and the interval data must be made available to third parties using the same Green Button Connect services now deployed by PG&E and the other IOUs.

Thank you for your consideration of this issue.

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