



California Public Utilities Commission Proceeding Public Comments

Proceeding Number: R2207005
Filed Date: 14-JUL-22
Status: Active
Filer Name List: CPUC
Description: Order Instituting Rulemaking to Advance Demand Flexibility Through Electric Rates.
Assignment List: ALJ: Stephanie Wang (Assigned Jul 19, 2022)
COMMISSIONER: Alice Reynolds (Assigned Jul 19, 2022)
Total Comments: 1



Keith Moffat

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Dear Commission,

I am a PhD student in Electrical Engineering at UC Berkeley. My research focuses on distribution network optimization and electricity pricing. In my research for my Ph.D. at UC Berkeley I have come to the independent conclusion that real-time electricity pricing is the correct way to engage customer flexibility and to provide customers with a cheaper, more equitable electricity service. Thus, I am pleased to see Proceeding R2207005 from the California Public Utility Commission (CPUC) and would like to offer my full support for the proposed "CalFUSE roadmap" in the CPUC Energy Division's Demand Flexibility Whitepaper.

The CalFUSE roadmap is forward-looking and will create growth in California's electricity sector. Growth of the electricity sector is necessary to meet California's greenhouse gas emission goals. Currently, the growth of the electricity sector is impeded by the static electricity rates that are presented to customers by the Utility Distribution Companies (UDCs) and other Load Serving Entities (LSEs)?see the "Replacing Demand Charges" Section in my extended comment, which can be found at the link at the end of this comment. The CalFUSE roadmap outlines sequential steps for UDCs and LSEs to provide customers with real-time electricity rates that will benefit the entire electricity sector.

The CalFUSE roadmap's call for using real-time electricity rates to spur electrification in California is prescient. Real-time electricity rates, however, only address electricity consumption/production inefficiencies for consumers/producers that are already connected to the electric grid. In addition to real-time electricity rates, including flexible interconnection agreements for certain subsectors (DC fast charging stations and medium-to-large renewable energy plants) will benefit electricity consumers, electricity producers, and UDCs/LSEs by enabling new grid connections. The "Flexible Interconnections for Certain Subsectors" Section in my extended comment provides more detail for why real-time electricity rates should be accompanied by flexible interconnections for certain subsectors.

The time is now for real-time electricity rates and flexible interconnections. Emerging technologies have matured to the point that real-time electricity rates and flexible interconnections are both necessary and practical. The technologies that make real-time electricity rates and flexible interconnections necessary include electric vehicles and electric home heating/cooling, which are posed to double electricity consumption in California, as well as intermittent renewable generation such as solar and wind power. The technologies that make real-time electricity rates and flexible interconnections practical include home energy management products, as well as internet and cloud computation infrastructure, that make the determination and dissemination of the real-time prices and power limits practical at scale.

Regarding the technical aspects of implementing real-time electricity rates and flexible interconnections, I would like to make the point that there is active research in this field. Research resources may be tapped to sort out the technical challenges that arise with



real-time electricity rates and flexible interconnections.

My extended comment, which can be found at the link below, describes

1. the case for flexible interconnections for certain subsectors,
2. the case for replacing demand charges with scarcity pricing for capacity cost recovery,
3. the technical details of implementing delivery scarcity pricing.

Regards,

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Extended comment link:

https://www.keithmoffat.com/KeithMoffat_Comment_CPUCproceedingR2207005_DemandFlexibilityThroughElectricRates_8.15.22.pdf

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