

**Abstract:** This paper studies how electricity consumption by firms in Hawaii's commercial and industrial sectors responds to changes in electric rates when the firms are subject to different volumetric rates and demand charges depending on the history of monthly peak and total consumption levels. To investigate how facing a higher demand charge affects the firms' electricity usage while taking into account their endogenous switching to different rate schedules, we use a group of firms that are exempt from the rate switching as a control group. Our estimation, with data on monthly electric bills and weather customized for each customer's billing cycle, demonstrates that the customers who experience switching to a rate with a higher demand charge are more responsive to volumetric prices (with a point elasticity estimate of  $-0.39$ ) compared to those who are exempt from rate switching (with an estimate of  $-0.13$ ). The results support a hypothesis that customers who face higher demand charges tend to be more price-responsive. These findings contribute to the literature on commercial and industrial demand modeling and forecasting. Moreover, the findings could assist decision makers in targeting potential customers for demand response programs.