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Title: Mass customized solar permitting and interconnection reform: The results of discrete choice experiments

Abstract: The time it takes for a residential rooftop PV system to connect to the grid is often long and uncertain. The length of time is associated with the higher comparative costs of PV in the U.S., as opposed to other countries. The uncertainty associated with delays hurts customer satisfaction and subsequent lead generation. In addition, the length and uncertainty associated with delays varies across the country. This project focuses on reforming two of the three portions of the total time involved in connecting a residential rooftop PV system to the grid. The three portions of total time are: (1) obtaining necessary permits from Authorities Having Jurisdiction (AHJs), sometimes from multiple municipal offices; (2) installing the PV system, including waiting for parts; and (3) interconnecting the PV system to the grid. This project focuses on reforming the permitting process (portion 1) and the interconnection process (portion 3) through a "mass-customized" approach, as opposed to both the current "top-down" reform approach employed in California, and the "bottom-up" reform approach driven by time-intensive efforts with particular AHJs or utilities. The paper we propose for presentation at BECC reports on the "mass-customization" results that we expect to emerge from our analysis of a survey instrument we will be launching later in Spring 2019. This survey contains discrete choice experiments (DCEs) that elicit the reform preferences of people who are knowledgeable about how local government offices and utilities currently manage the risks of residential rooftop solar PV installations via the permitting, inspection, and interconnection process. The study draws from pools of participants with current and/or recent (last five years) professional experience in three types of organization in the U.S.: (1) local government offices; (2) electric utilities; and (3) firms that work in the PV installation business. The DCEs employ random design, in which a random level from each attribute is drawn and included in the choice sets presented repeatedly to respondents; the expectation is that the coefficients will represent real preferences, as they will result from tradeoffs rather than a non-consequential ranking of reform practices. The project team will be employing a latent class estimation approach that should allow us to "segment the market" for reform into clusters of municipalities and utilities that share interests in reforms with certain attributes.