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Presentation Title: Understanding The Nexus Between Income Inequality And Solar Pv Adoption Inequity

Abstract: Rooftop solar photovoltaics (PV) have emerged as a technological solution to high energy costs for low- and moderate-income (LMI) households. Nonetheless, LMI households remain less likely to adopt PV than high-income households. We posit that underlying income inequality and income segregation have been overlooked in the literature on key drivers of PV adoption inequity. In areas with high degrees of income segregation, PV deployment tends to be geographically isolated in clusters of households with relatively high incomes. This geographical isolation, in turn, could confine important forces of social influence to those high-income areas. For instance, households are more likely to adopt PV when they speak with peers who have adopted or see PV systems in their neighborhood. Income segregation could confine these social influence effects to high-income neighborhoods, potentially undercutting a key pathway toward higher rates of LMI PV adoption. In this study, our team will explore the nexus between income segregation and PV adoption inequity and the potential mechanisms that could explain an association between the two. We will use a novel data set of modeled PV adopter incomes coupled with system-level data on over one million residential PV installations in the United States. Preliminary results suggest that PV adoption is more equitable with regards to income in areas with less income inequality. If this result holds, the findings could have important policy implications. In particular, the research could show the importance of designing LMI PV interventions that are targeted to low-income areas, not just to low-income households. Area-targeted interventions could catalyze effects of local social influence and generate self-perpetuating increases in LMI PV adoption.