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Talk Title: On the Dynamics of Solar Adoption: Equilibrium, Stability, and Limiting Capacity

Abstract: The so-called death spiral hypothesis states the possibility that, as more and more consumers adopting behind the meter solar generation, the revenue of a regulated utility decreases, forcing it to raise the price of electricity, which in turn drives more consumers to adopt solar generation. Eventually, the utility will not be able cover its cost of operation and the need of infrastructure investments.

In this talk, we investigate the short and long-term stability of the solar adoption process. We aim to shed lights on the following questions: can death spiral happen under the current tariff structure? If death spiral can be mitigated, what is the adoption rate of a stable equilibrium? What is the maximum adoption rate (limiting capacity) achievable by a stable adoption process? Is achieving a higher level of solar adoption aligned with maximizing the overall social welfare?