



In Partial Fulfillment of the Requirements for the Degree of

Master of Science

Wayne Porter

Will defend his thesis

Renewable Energy in Rural Southeastern Arizona: Decision Factors

Abstract

Arizona has an abundant solar resource and technologically mature systems are available to capture it, but solar energy systems are still considered to be an innovative technology. Adoption rates for solar and wind energy systems rise and fall with the political tides, and are relatively low in most rural areas in Arizona. This thesis tests the hypothesis that a consumer profile developed to characterize the adopters of renewable energy technology (RET) systems in rural Arizona is the same as the profile of other area residents who performed renovations, upgrades or additions to their homes. Residents of Santa Cruz and Cochise Counties who had obtained building permits to either install a solar or wind energy system or to perform a substantial renovation or upgrade to their home were surveyed to gather demographic, psychographic and behavioristic data. The data from 133 survey responses (76 from RET adopters and 57 from non-adopters) provided insights about their decisions regarding whether or not to adopt a RET system. The results, which are statistically significant at the 99% level of confidence, indicate that RET adopters had smaller households, were older and had higher education levels and greater incomes than the non-adopters. The research also provides answers to two related questions: First, what were the sources of information consulted and the most important factors that motivated the decision to purchase a solar or wind energy system? Second, are any of the factors which influenced the decision to live in a rural area in southeastern Arizona related to the decision to purchase a renewable energy system? The answers are provided, along with a series of recommendations that are designed to inform marketers and other promoters of RETs about how to utilize the results to help achieve their goals..

Wednesday, April 20
4:00 pm
Wrigley Hall, Room 481

Faculty, students, and the general public are invited.

Supervisory Committee:
T. Agami Reddy (Chair)
Martin (Mike) Pasqualetti (Member)
Kelli Larson (Member)
Linda Kennedy (Member)