School of Sustainability
Arizona State University

In Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy
Wesley Herche

Will defend his dissertation

Policy, Geospatial, and Market Factors in Solar Energy

Abstract

Our dependence on fossil fuels is driving anthropogenic climate change. Solar energy is the most abundant and cleanest alternative to fossil fuels, but its practicability is influenced by a complex interplay of factors (policy, geospatial, and market) and scales (global, national, urban). This thesis provides a holistic evaluation of these factors and scales with the goal of improving our understanding of the mechanisms and challenges of transitioning to solar energy.

This analysis used geospatial, demographic, policy, legislative record, environmental, and industry data, plus a series of semi-structured, in-person interviews. Methods included geostatistical calculation, statistical linear regression and multivariate modeling, and qualitative inductive analysis. The results reveal valuable insights at each scale, but moreover a gestalt model across the factors and scales draws out a larger pattern at play of the transmutational weighting and increasing complexity of interplay as the level of analysis cascades down through the three geographic scales.

Wednesday, July 12, 2017
10:00 a.m.
Wrigley, Room 481

Faculty, students, and the general public are invited.

Supervisory Committee:
Dr. Rob Melnick (Chair)
Dean Christopher Boone
Dr. Martin Pasqualetti