

## **Introduction to Energy Systems Analysis**

GCEP's energy systems analysis research examines the impact of large-scale deployment of various energy technologies using net energy analysis. This technique combines fundamental energy analysis of a resource or device with evaluation of the wider technological system. Net energy analysis rigorously and systematically examines the energy return on investment of various technology options. It can provide guidance to laboratory researchers by identifying which parameters most impact a technology's energy performance and provide insight to project planners and policymakers by highlighting which technology choices make the most efficient use of energy resources.

Professor Sally Benson is leading the GCEP efforts in this area that in the past year have examined the growth rate of the photovoltaic industry; co-deployment of energy storage with wind or solar generation; and energy storage in hydrogen.