

## **Introduction to Cost-shared Research**

A portion of the GCEP portfolio development and maintenance goes towards cost-shared research. Participation in cost-shared research serves as an extension of GCEP-related work and leverages funds from third parties including government agencies and companies outside of the Sponsor organizations. Currently GCEP contributes to two consortia: the Bay Area Photovoltaic Consortium (BAPVC) and the Stanford Center for Carbon Storage (SCCS).

The mission of BAPVC is industry-relevant research and development for PV manufacturing, workforce training and technology commercialization. Lead by Professors Yi Cui at Stanford University and Ali Javey at the University of California, Berkeley, the BAPVC is funded by academia, industry affiliates and the U.S. Department of Energy (DOE). The DOE has committed \$25 million dollars over five years through its Sunshot PV Manufacturing Initiative. In addition to GCEP, the member companies are First Solar, Alta Devices, BASF, EpiSolar, Total American Services, and 3SUN. GE and DuPont have represented GCEP at BAPVC events. Currently BAPVC has funded 35 projects in the categories of 1) high performance and multijunction cells, 2) silicon absorbers and cells, 3) thin film absorbers and cells, 4) photon management and transparent conductors and, 5) encapsulation and reliability.

SCCS was established in 2011 to address a multitude of scientific questions for large-scale CO<sub>2</sub> storage. The center is lead by Professor Anthony Kocscek, a professor of energy resources engineering in the School of Earth Sciences and is comprised of 13 faculty plus their associated graduate students. The research is broken into the four categories of 1) geochemical processes and permanent storage, 2) monitoring, 3) improved process modeling for design, operation and risk assessment, 4) co-optimized enhanced oil and gas recovery with CO<sub>2</sub> sequestration. The affiliates outside of GCEP sponsor companies are Chevron, Shell, and the U.S. Geological Survey. ExxonMobil and Schlumberger represent GCEP at SCCS meetings. Among other activities, SCCS offers annual review meetings, workshops, short courses and a sabbatical program for visiting researchers. Their report summarizes five projects supported by GCEP.