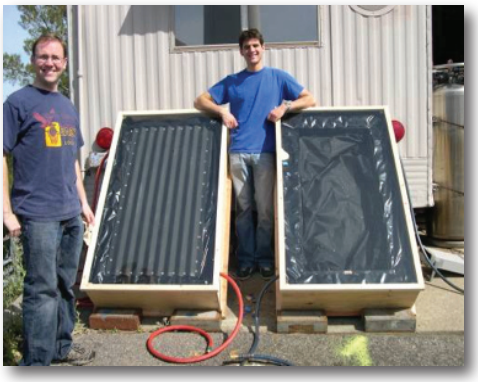
Design for Sustainable Communities Projects (2007)

- The **Darfur Stoves Carbon Team*** researched the financing of fuel-efficient cookstoves in Darfur through the sale of carbon credits, applied a methodology for calculating carbon offset developed by the World Bank, and developed a 5-minute pitch document directed at potential carbon credit buyers.
- The **French Polynesia Building Materials Team*** conducted a thorough analysis of sustainable building materials with potential for local manufacture in French Polynesia, including cost, greenhouse gas emissions, and impact on local livelihoods.
- The **LED for Fishing Village Team** identified appropriate modern alternatives to fuel-based lighting in a rural Indian fishing village by identifying user lighting needs, gathering locally available LED lighting alternatives, and comparing the products based on user needs, economic analysis, and quality testing. The group also protytped a low-cost submersible LED fishing light.
- The **LED-Retrofits Team*** designed low-cost LED flashlight retrofit for existing incandescent flashlights in an unelectrified village in Panama to drastically increase battery life and lower the cost and waste of lighting.
- The **Pesticide Security Team*** created and executed a user-needs assessment for personal protective equipment (PPE) to prevent pesticide exposure for migrant farm-workers. The team also field-tested several available forms of PPE.
- The **Solar Hot Water Heater Team*** designed, fabricated, and tested a low cost solar water heater affordable to low income households. Field-testing is currently underway in Xela, Guatemala.

* indicates student involvement continued beyond the course.

Select Photos



Student members of the Solar Hot Water Team pose with two low-cost prototypes (above). Protypes are currently being field-tested in Xela, Guatemala.

The French Polynesia Building Materials Team explored options to produce local building materials from recycled or sustainable sources, including boards from coir, a common waste product (shown left).

The Pesticide Security Team works to prevent severe birth defects (shown right) and other ailments from pesticide exposure. One possible solution is the use of simple to make protective suits (far right).

The LED for Fishing Villiages Team prototyped a low-cost submersible fishing light and tested existing LED and solar charged alternatives to kerosine lighting in rural Indian fishing villages (left).