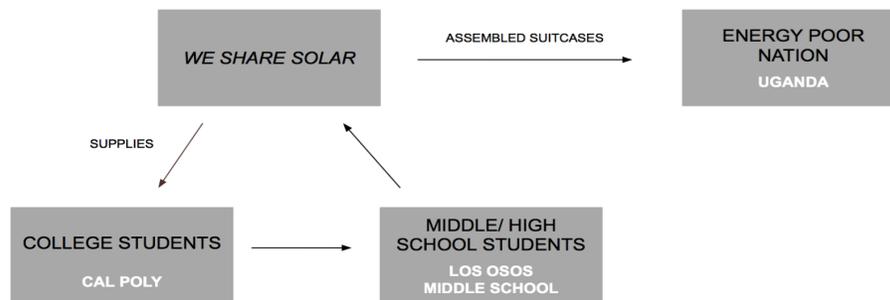


# THE SOLAR SUITCASE

## Program Overview

General Information: The Solar Suitcase, an initiative of the non-profit We Share Solar, is a solar-powered system powered by solar panels to provide DC (Direct Current) electricity to charging ports and lights. It is aimed at addressing the nearly 1.2 billion people worldwide currently living in energy poverty. Completed systems are sent to energy-poor nations to light schools and hospitals. The Solar Suitcase is also being used as a humanitarian-based, STEM education project in the U.S to teach students about solar technology as well as challenges faced by the global poor. Providing kits of materials, We Share Solar encourages college-aged students and younger children to collaborate in assembling the given supplies into a functioning Solar Suitcase system for those in need abroad.



Specifics: We Share Solar's educational outreach program first identifies a CSU school interested in the project. A college level course incorporating the Solar Suitcase is then offered at the CSU campus to teach higher education students about photovoltaics. We Share Solar also identifies a local school (with students between grades 6-12) as a partner for the college campus. The higher education students then assist the local school in assembling Solar Suitcases before they are sent abroad. In San Luis Obispo, Cal Poly is the college campus participating. Students will take PSC 320 (Energy, Society, and the Environment) to learn about the Solar Suitcase and assist an after-school program at Los Osos Middle School in assemblies.

Reasoning Behind the Program: The reason We Share Solar has taken the Solar Suitcase and expanded its purpose to include educational outreach is because of the added benefits the program brings...

- the concept of energy poverty is brought to light
- the humanitarian aspect of the Solar Suitcase is motivational for students
- the multi-generation component of the program connects young students to higher education
- project based learning is more engaging

For more information about We Share Solar: <https://www.wesharesolar.org>

Future Plans: This model of a Cal Poly and Los Osos Middle School partnership will be implemented in Winter of 2018.

Long term, the Solar Suitcase may be used to teach photovoltaic technology abroad. Students at Beacon of Hope Boarding School in Uganda would learn about the Solar Suitcase and recreate the system with locally sourced materials. The end goal would be to encourage self-sustainability within the community.

**My Work** Curriculum Development: The Solar Suitcase can easily be assembled without knowledge of circuits because of the in-depth instructional manual. However, with the addition of expanded curriculum, there are increased learning opportunities.

**Middle School Curriculum-**

<https://docs.google.com/document/d/10L6RfRrvCf-DhwnUAXsGjDFPD45AOHJVGKUDQoJuqDE/edit?usp=sharing>

**PSC 320 Lab-**

<https://docs.google.com/document/d/1qpA1O7hhe4QPX00s2Zxm9vemtUy5qAE3bBW8WRIJQM/edit?usp=sharing>

**Poster-** [https://drive.google.com/file/d/0B19lx\\_iltAaJeno0VINwQjZ0UHc/view?usp=sharing](https://drive.google.com/file/d/0B19lx_iltAaJeno0VINwQjZ0UHc/view?usp=sharing)

**Presentation-**

<https://docs.google.com/presentation/d/1htScHafRmDV6JfDf6IHGQ1P2y89v5noNmSGnacAXyJY/edit?usp=sharing>

## **Important Contacts**

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