

SIU Sustainability Council Project
Final Report
Lichang Wang (prepared on behalf of George Hudson)

Project title: **Using Coal to Reap Solar Energy**
Project I.D. #: 110306
Award date: May 16, 2011
Completion date: March 31, 2014
Funds used (if different from award amount): \$4,971

Brief write up of project/project experience (not to exceed 250 words):

George started the project in fall 2011 and worked for 2 semesters. The total payment of \$7,404 was made to George, which was calculated based on a monthly payment of \$823 for 4.5 months each semester.

George built dye sensitized solar cells using coal as dye materials by following the procedures from an experiment I used for PhyChem Lab course. The conversion efficiency of these coal solar cells constructed is low.

He then tested various ways of increasing the absorbance of coal materials to the TiO₂ and tested the conversion efficiency. A few images of the cells that George constructed are attached at the end of the report.

The major conclusion is that one needs to do polymerization to the coal so that it can anchor better to the TiO₂ and the efficiency of coal solar cells may be improved.

Although more than two years have passed since the initial work by George and half of the support from this project is still remaining, I am not able to hire the right students doing the research being described in the funded project. The best opportunity of continuing hire at the end of 2011 was lost due to the lengthy process of employment procedure and I have not been able to identify the right person to work on the project since and hoping to make significant progress.

I am returning the remainder of the fund to you.

Best things learned/produced from project:

How do you define sustainability?

Has this changed over the course of your project? If so, how?

What do you see as the next step for the project?

Optional: Do you have any suggestions for the SIU Sustainability Council to improve the Green Fund award process?

Attach a minimum of five images – these will be used to promote interest in Sustainability Council projects. These can be photographs of the progress of the project, the completed project, or promotional materials.





