
MEMORANDUM

TO: PROFESSOR CASHMAN
FROM: MAXFIELD WRIGLEY
SUBJECT: SERC AND CCAT SITE VISITS
DATE: DECEMBER 2, 2016

Purpose:

The purpose of this memorandum is to discuss the various experiments that the Schatz Energy Research Center (SERC) and the Campus Center for Appropriate Technology (CCAT) have done and are doing, explain what I could do to get involved, and my personal experience of the trip that happened on November 18, 2016.

Discussion:

The purpose of this trip was to explore the different ways you can approach environmental issues, demonstrated by the opposing methods of SERC and CCAT. During the trip, we were given a tour of each site, an overview of the projects that have happened and are currently in progress, and a brief history on the creation of SERC and CCAT.

One design project currently being conducted by SERC is the utilization of forest slash from logging as biomass. They are trying to turn the slash into high energy compressed bricks which can then be used as a substitute for coal. The environmental benefits of this are the elimination of harmful particulate matter and pollutants that burning of coal puts into the air and being able to do this with a renewable resource that is usually just wasted. A societal benefit is the general healthier lifestyle people will live with cleaner air. Environmental costs that the project might introduce are the need for trees to be cut down to produce more fuel, the energy needed to make the bricks might be nonrenewable, and the slash will need to be transported to a brick making machine which will take up even more fossil fuels.

I could get involved with SERC by applying for a job in the Docent program, which is basically an outreach program. This would help get my foot in the door and make me a more likely candidate to be chosen to help with SERC projects. A project that particularly interested me was the creation of hydrogen fuel cells and their implementation as a substitute for nonrenewable energy. Something about being able to use hydrogen as an energy source really sparked my interest and made me want to pursue that or something like it in the future.

The most interesting thing I learned on the trip was that the first ten minutes of rainwater is actually black water and not fit for human use. Learning the way CCAT found out how to separate the first ten minutes of water from the rest of the storm water, and then use it instead of just dumping it, was very interesting.

Conclusion:

This field trip showed me the how both SERC and CCAT approach environmental stability. It also informed me on how to get involved with both programs and that I am pretty interested in fuel cell technology.