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## **EE/CprE/SE 491 WEEKLY REPORT 6**

**3/5/23 - 3/12/23**

**Group Number: 16**

**Project title: Feasibility of Solar PV Energy for Puerto Rico**

**Client &/Advisor: Vikram Dalal**

**Team Members/Role: Adam Curtis, Hannah Nelson, Isaac Buettner, Larry Trinh, Manuel Perez-Colon**

### **o Weekly Summary**

We had a team meeting with Prof. Dalal this week. We presented our presentation to him on updated research from the last two weeks. He listed a few questions that he suggested we look into before meeting with him again: Meet with Ann Kimber to discuss gaining access to IEEE and NECA standards, research community Solar-Farms, contact NREL about the possibility of said solar farms, connect with Pro. Dalal's Burns & McDonnell contact. We also decided we need to be more organized before coming to our meetings with him, so we are working on that organization and communication this week before spring break. It was a busy week for everyone with exams, so we focused on putting our research together and not necessarily starting something new.

### **o Past Week's Accomplishments**

**Hannah:** Organized my research into sections on the shared "research by topic" page. This will help everyone be on the same page in the future when we start to get overlap between topics. I developed a "game plan" for myself after spring break and the main questions I want to answer.

**Manuel:** Organized my research for the rest of the group. Didn't invest much time after that in the project due to prioritizing midterms.

**Adam:** Evaluated the research I have done so far, and cut out some of the sources I found to be outdated and/or untrustworthy. Spent a bit more time in an attempt to nail down exactly how many/type/generation capacity of power plants in Puerto Rico to finalize that research.

**Larry:** We had a meeting with Dr. Dalal on Monday. I did some more research about the economy, and culture in Puerto Rico. I also organized all the information I have so far. During last week, I was self-educating with solar energy and grid integration.

**Isaac:** I spent the latter part of the week working on the team website, making sure all of our documents got uploaded, that everybody’s bios got in, that our project overview made sense, and additionally making sure everything was referenced correctly. Although I’m not the most experienced with HTML, I was able to understand it enough after some time to try and add some small improvements to our web page such as a “work in progress” error page and just had some fun making sure everything came together with both form and function in mind to an extent. Other than that, I was limited in how much I contributed as the first half of this week was more focused on midterms.

**Individual contributions**

| <b><u>NAME</u></b> | <b><u>Individual Contributions</u></b><br><i>(Quick list of contributions. This should be short.)</i> | <b><u>Hours this week</u></b> | <b><u>HOURS cumulative</u></b> |
|--------------------|---|-------------------------------|--------------------------------|
| Adam Curtis        | Research  | 3                             | 27                             |
| Hannah Nelson      | Research and organization   | 4                             | 27                             |
| Isaac Buettner     | SD Team Website   | 7                             | 26                             |
| Larry Trinh        |   | 3                             | 25.5                           |
| Manuel Perez       | Organization  | 2                             | 14                             |

- o **Plans for the upcoming week** *(Please describe duties for the upcoming week for each member. What is(are) the task(s)?, Who will contribute to it? Be as concise as possible.)*

**Hannah** - When we return from break, figure out the key differences between community solar farms (small-scale) and rooftop PV. Compare findings with NREL, Princeton, and MIT reports seeing which one is most feasible. Would there be transmission involved in community solar farms? What is the cost associated with those and how would residents react? A similar concept to “agrihoods” – but would need pre-existing empty land.

**Manuel** - Connect with Prof. Dalal’s Burns & McDonnell contact and question them about feasibility and economic investment required. Summarize research found so that it is readily available for the team.

**Adam** - I plan to look into costs for running underground transmission/distribution lines, as that could be a very good solution to the issues often caused by hurricanes destroying above ground power lines. Also hope to get in touch with Ann Kimber to gain access to engineering standards that we will need to ensure our final solution is safe and meets the current standards.

**Larry** - I will look at the previous senior design project to figure out what information I need to work on or do some more research. At the same time, I plan to continue to learn some more about solar energy, and how the grid costs.

**Isaac** - I want to work on organizing my notes and research for this upcoming week so that I can clearly and comprehensively show all that I have compiled with my group members. Additionally, I may want to take some more time looking at LNG and future projects for Puerto Rico, picking up where I left off for the last week.