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**Benefits, Barriers, and Opportunities for Renewable Energy and Natural Resources  
Program**

**San Diego State University – Imperial Valley**

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## **Acknowledgements**

Primarily, I would like to recognize the people that made this internship opportunity possible for me. I would like to thank Araceli Saucedo, Research Technician, for being my mentor and guiding me throughout this valuable internship experience. I would also like to thank Roberto Gonzalez Jr., USDA-HSI Regional Director for So-Cal and AZ, for introducing this internship opportunity to me, and who is constantly working to promote these types of opportunities for students like me in my community. This project was supported by Hispanic-Serving Institution's Education Program Grant no. 2015-38422- 24058 from the USDA National Institute of Food and Agriculture.

## **Executive Summary**

San Diego State University's Sustainable Energy Center (SEC) is focused on promoting renewable energy research, education, and training. Through its research it offers professional and academic education pertaining to California's renewable energy future, contributing to the social and economic development of the Imperial Valley. One of the central objectives of the Benefits, Barriers, and Opportunities for Renewable Energy and Natural Resources Project is to identify and address the students' and community's needs of STEM-related education in the Imperial Valley, where little to no programs are offered for students who are seeking a degree in engineering, sustainability, agriculture, and environmental science.

As a student intern in the early stages of the project, I assisted with the visibility, education, and outreach of SEC towards the community. By creating social media websites, pamphlets, and monthly newsletters I advocated for the SDSU's SEC's potential to enhance renewable energy, natural resource, and sustainability education. In addition, I also assisted with research and literature review of scholarly articles on academic databases geared towards the development of new STEM-related programs and workforce training for minority, low-income, and first-generation college students.

## **Project Objectives**

The Imperial Valley's weather and environment makes it an ideal location for renewable energy sourced technologies such as solar, wind, geothermal, and hydropower. It is because of its ideal conditions that these technologies are now being brought to the Imperial County on a commercial scale, and it is no surprise that it is the second-largest geothermal energy producing county in the entire nation. Taking this into consideration, the Imperial Valley could also be an ideal location to provide renewable energy education and cutting-edge research.

The primary objectives of this project included becoming familiarized with the SEC's potential for renewable energy education, provide awareness, and identify the needs and demands of students interested in STEM-related programs. My goal as a student intern was to gain more knowledge about the current state of renewable energy in the Imperial Valley and California as well. Since one of the objectives is to keep in touch with the community's needs my goal was also to serve as a liaison between the community and SDSU IV SEC. Another of my goals was to learn more about potential jobs within the USDA and the county concerning energy.

In addition, I also had the opportunity to participate in California State University Water Resources and Policy Initiatives 11<sup>th</sup> Annual Conference. The conference brought students, faculty, and administrators together to explore water-related education, research, policy development, and investigate current water resource management issues in California. Through this amazing experience, I was able to learn more about California's current water resource management problems and how we can implement solutions to address those problems. We were able to share ideas, network, and visit the highest dam in the whole country, the Oroville Dam.

## **Project Approach**

As a student intern, I created educational content such as pamphlets, websites, and newsletters which enabled me to research and learn so much more information about technology and renewable energy trends locally and nationally. I compiled an email distribution list of local stakeholders who are nonprofits and governmental agencies involved in environmental issues such as water, energy, and agriculture.

In order to serve as a liaison between the community and the SEC, I felt the need to study more about renewable energy sources and technologies, and how my environment has the potential to bring more of those sources into the Valley. Consequently, I became much more aware of the economic and social condition of Imperial County. It also led me to become aware of the high availability for USDA loans in renewable energy. More specifically, I learned about the Rural Energy for America Program which has more than \$400 million dollars available to loan to small rural businesses.

This upcoming semester, the plan was to create a survey to measure SDSU IV's student's interest in STEM-related courses. Another upcoming plan is to introduce a green energy club to SDSU IV that would enable us to bring more awareness, events, and student participation relating to renewable energy in the Imperial County.

## **Project Outcomes**

The outcomes of this project have been successful even though it has recently started about 4 months ago. Although I only worked as an intern for 3 months, I was able to provide educational material and newsletters to SDSU's students and professors. I learned so much valuable information pertaining to the renewable energy industry and natural resource management in the Imperial Valley. I learned much more about my community and the future forecasts about the implementation of energy technologies and policies. I was also able to explore and research more careers within the USDA's Natural Resources Conservation Services.

## **Conclusions**

In conclusion, I am beyond grateful to have been able to serve as a student intern for the Benefits, Barriers, and Opportunities for Renewable Energy project. My experience working for SDSU IV's Sustainable Energy Center has allowed me to gain more in-depth experience and knowledge about the energy industry locally as well as nationally. This experience has benefited me tremendously in deciding my future career path and goals. It has encouraged me to continue my education and pursue my master's degree soon. Additionally, I received a letter of recommendation from Ms. Saucedo as I am recently graduated and looking for employment. This internship has built my confidence and leadership skills and I know I have Ms. Saucedo and Mr. Gonzalez who I can find support and guidance.



**Appendices**



**At the California State University Water Resources and Policy Initiatives 11<sup>th</sup> Annual Conference**