**GENERAL ABSTRACT**

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The primary focus of the Communities to Clean (C2C) project is presenting community leaders with easily accessible data that enables them to site renewable energy projects without costly research. Previously, when starting a renewable energy project, it has been necessary to do intensive, site-specific research to understand how successful a plant can be. The primary issue with this, is that this process often lengthy and expensive, which limits its accessibility for smaller communities. As everyone draws nearer to strict emission guidelines, it is essential that this barrier to entry is removed, and small communities are empowered to develop renewable energy projects without having the same access to resources.

The C2C projects aims to do this by collecting, analyzing, and presenting essential data to community members, through a completely free and transparent system. Currently the project is focused on wind energy, sourcing data from NASA POWER, NREL’s WindToolkit, OpenWeather, National Weather Service, and the Alaska Energy Authority. This toolkit will allow for users to easily access this information and enable developers to collect it more efficiently through a data platform. Data will also be processed in-house at NREL, taking advantage of sophisticated power models to provide more applicable information about how effective different sites will be.

This summer I focused on researching and comparing these data sources, implementing a platform that allows for them to be accessed all at once, and maximizing the usability of this tool for community leaders and developers alike. This has allowed for me to not only develop my technical skills, but also understand the importance of collaborating in a research setting. It has enhanced my ability to communicate ideas that I’m passionate about and ensure that I can achieve goals that I set out for myself.