

# Developing the Clean Energy Tech Treks

Prepared for

Clean Energy Institute, University of Washington

Prepared by

Lane Smith

Department of Electrical and Computer Engineering, University of Washington

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## Report Overview

This report outlines the development and implementation of the inaugural Clean Energy Tech Trek series, hosted in collaboration between members of the University of Washington's Clean Energy Institute and the Washington Clean Energy Testbeds. The Clean Energy Tech Trek series was a five-week program that afforded entrepreneurially-focused students with an interest in clean energy technology careers the opportunity to visit five Seattle-based clean-tech startups. The desired outcome of the Clean Energy Tech Trek series was to connect local startups with mission-aligned graduate students for internships and full-time jobs, while also inspiring future innovative research that aligns with industry challenges. This report will discuss the logistics in developing this series, participation statistics from this initial offering, and suggestions for potential future implementations.

## Motivation and Background

The idea for the Clean Energy Tech Trek series began during Fall Quarter 2019 when members of the Clean Energy Institute's (CEI's) Student and Faculty Advisory Board met with Scott Case, the new Entrepreneur in Residence at the Washington Clean Energy Testbeds (WCET). During this meeting, Scott discussed the Massachusetts Institute of Technology's (MIT's) Tech Trek series that he took part in while pursuing his MBA. MIT's Tech Trek series features week-long excursions to technological epicenters across the country, including San Francisco, Los Angeles, and Seattle. During these visits, students tour multiple companies, meet with company executives, and learn about the companies' operations. It is a great opportunity for students and companies alike: students get the chance to network with potential future employers and companies get to recruit intelligent students who are close to graduation.

With CEI students seeking more opportunities to tour local clean-tech companies and network with company leadership, creating a program like MIT's Tech Treks seemed to be ideal. Additionally, Seattle's abundance of clean-tech companies and startups offered a wealth of potential companies to work with on an initial offering of an energy-focused Tech Trek series. Scott, being a Seattle-based clean-tech entrepreneur himself, had many connections to local clean-tech startups. He generously offered to help coordinate the company participation and visits so long as the CEI solicited sufficient student involvement.

## Series Development

The Clean Energy Tech Trek series was established to occur for five weeks, from February 4<sup>th</sup> to March 3<sup>rd</sup>, where a different company would be visited each week. During each visit, members of the company's leadership team held a candid discussion based on pressing technical and business challenges they face. This discussion was followed by an "ask me anything" style Q&A session that gave students a great opportunity to learn about starting a business from experienced entrepreneurs and to network with potential future employers. Additionally, if applicable, students

were also given the opportunity to tour the facility and see the company’s products firsthand. This also served as a good time for students to interact with employees that are more on the technical side. All told, these visits each lasted about one and a half hours.

Two months prior to the actual start of the Clean Energy Tech Trek series, Scott started reaching out to clean-tech companies in his network. Companies were selected based on interests to CEI-related research areas, such as solar, energy storage, energy management, and electric mobility. Table 1 shows the list of selected companies and the dates they were visited.

**Table 1.** Companies visited during the Clean Energy Tech Trek series and the dates that each company was visited.

<b>Company Name</b>	<b>Date Visited</b>
Allumia	February 4, 2020
Omnidian	February 11, 2020
Membrion	February 18, 2020
LevelTen	February 25, 2020
MagniX	March 3, 2020

Scott received commitments from most of the companies at least one month prior to the start of the series. This was done in an attempt to better market the Clean Energy Tech Treks to prospective graduate student participants.

Student participation began to be solicited about one month prior to the beginning of the Clean Energy Tech Trek series. Twenty spaces were offered under the stipulation that students must be able to attend all five site visits. This constraint was established to serve as a value proposition for participating companies; since companies were agreeing to do this for free, a full set of engaged students was the least that could be offered in return. Due to the limited number of spaces, a waitlist was maintained in case students who signed were no longer able to attend site visits.

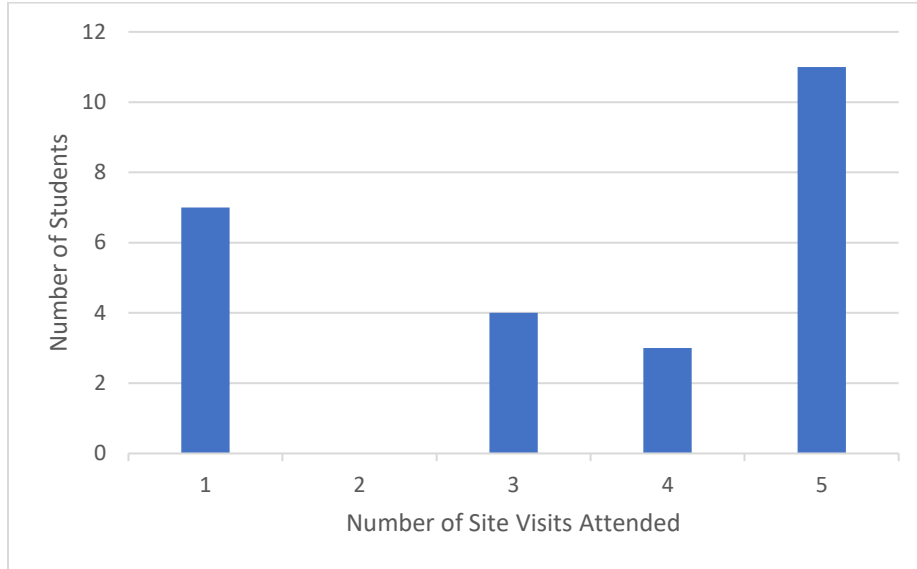
Students were notified of this opportunity via department email listservs. With this series being hosted by the CEI and the WCET, CEI fellows and CEI-affiliated graduate students were given the first opportunity to sign-up. Since fewer CEI students signed up than was initially anticipated, registration was opened to graduate students in other relevant programs, including the Electrical and Computer Engineering department, the Computer Science and Engineering department, the Torrance Foundation Tech Due Diligence program, the CEI DIRECT program, and Foster School of Business.

Once the Clean Energy Tech Treks began, students were responsible for arriving at the company fifteen minutes ahead of time. Each of the companies were easily accessible by either light rail or bus, so transportation was never an issue. Scott attended each of the site visits to help facilitate the session.

## Participation Statistics and Feedback

Despite requiring students to attend each of the site visits, there were students who inevitably dropped the program or had to miss certain weeks. While the first couple weeks of the program featured close to twenty participants, that number dwindled as the Clean Energy Tech Treks

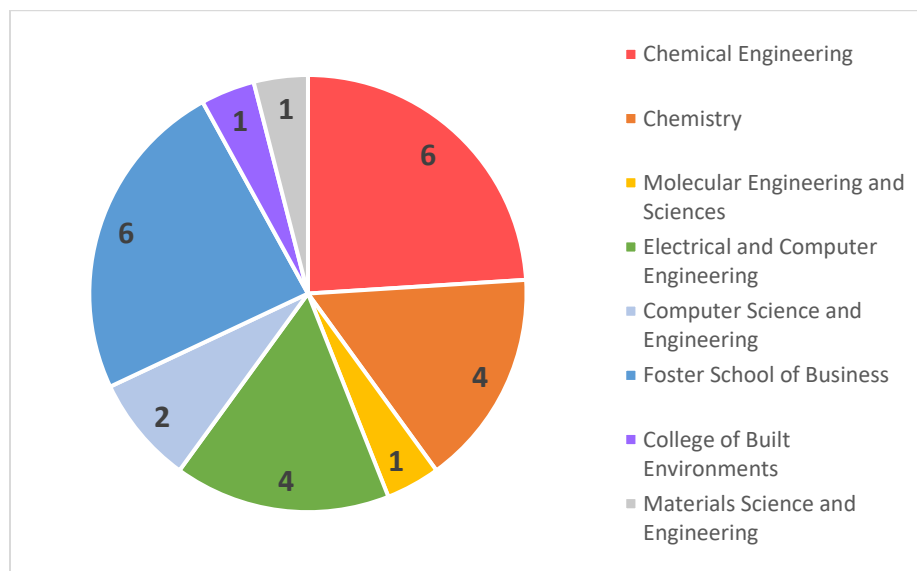
progressed; during the final site visit, less than fifteen students attended. There was also more turnover than was initially anticipated, with only eleven of the original twenty participants attending all five of the site visits. Figure 1 shows the number of site visits attended by different students.



**Figure 1.** The number of students who attended different numbers of site visits.

Much of the variability shown in Figure 1 can be attributed to the fact that many students could not commit to attending site visits for five consecutive weeks. Another cause of the variability is that there were many students that ended up dropping after the first week, hence the large number of people who only attended one site visit.

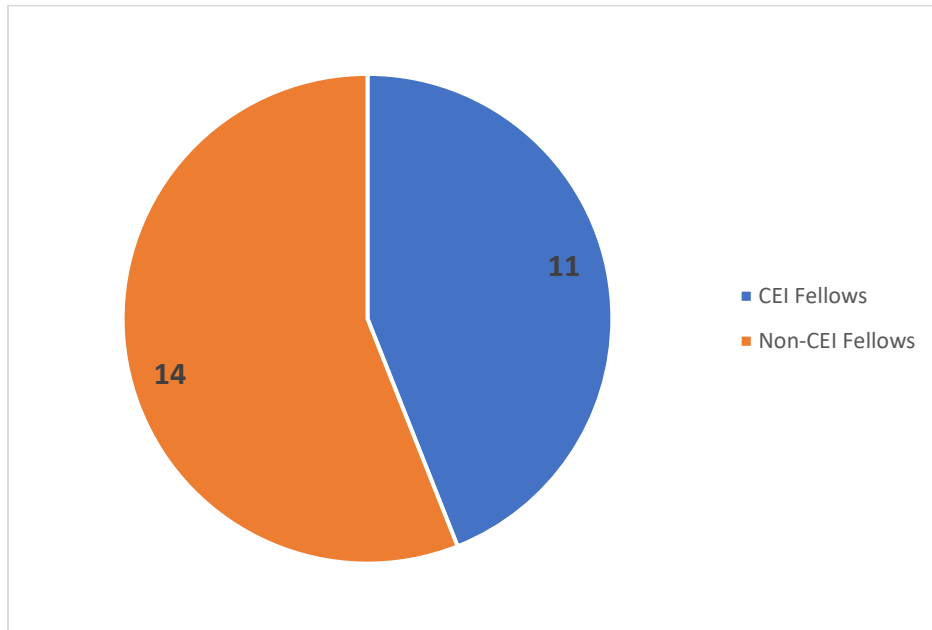
There was strong diversity in the types of students that participated in the first offering of the Clean Energy Tech Treks. Figure 2 shows a comparison of the departmental representation.



**Figure 2.** Departmental representation of students that attended at least one site visit.

As can be seen, there was strong participation by departments that are typically involved in CEI-related activities, such as Chemical Engineering, Chemistry, and Electrical and Computer Engineering. Many of the companies being software-related helped attract students from Computer Science and Engineering and the focus on startups attracted students from Foster School of Business.

Participation amongst CEI fellows was lower than anticipated. Figure 3 shows the distribution of participating students, indicating whether or not they were a CEI fellow.



**Figure 3.** Distribution of participating students, indicating whether or not they were a CEI fellow.

Initially, only eight CEI fellows signed up for the Clean Energy Tech Treks, which prompted the expansion to other departments and programs. A few more CEI fellows ended up joining about halfway through the series once other students started dropping. While the small number of CEI fellows allowed other departments to be engaged, it would have been nice to have more CEI fellows participate in a CEI-sanctioned program. Based on student feedback, CEI student involvement would likely increase if more hardware companies were visited and if the week-to-week participation were less strict. An additional complication was that site visits overlapped with a course that CEI DIRECT fellows were required to take on Tuesday afternoons; had the overlap not occurred, there likely would have been more CEI students attending.

### Suggestions for Potential Future Offerings

Based on participant feedback and lessons learned during the series organization, there are many things that should be considered if the Clean Energy Tech Treks are offered again.

First, trying to require students to attend each site visit for five consecutive weeks was definitely difficult, proving infeasible for many students who actually signed up and restrictive for students who may have otherwise been interested. While trying to guarantee a full group of engaged graduate students is an important value proposition to offer companies, there needs to be a different way to ensure high participation numbers. Some students suggested having less regular site visits, such as one site visit every other week. Along similar lines, the Clean Energy Tech Treks could be offered once or twice a quarter (similar to the frequency of CEI's other industry visits). Another idea that was considered initially was to make this a seminar course of sorts, where students could sign up for perhaps one credit; this would provide extra motivation to attend and would ensure that students have the time set aside in their schedule.

While the Clean Energy Tech Treks began as a way for students to interact with company leadership, it became apparent that more students would have preferred presentations by and networking opportunities with members of the technical team. In future offerings, spending less time on the business side would be more enticing, especially for CEI fellows and students from technically-oriented departments. Changing the presentation content to material that students desire would hopefully lead to better retention rates. This change would also likely reduce the number of Foster School of Business students that participate. The business students had especially poor attendance, leading Scott to recommend that Foster School of Business students be left out of future offerings unless a student really seeks the series out.

As was mentioned in the prior section, many students would have preferred more site visits with hardware companies as opposed to software companies. Having a better mix of companies is certainly attainable, especially by working in coordination with CEI and WCET faculty and staff to identify potential companies. It will be especially crucial to work with students to identify desirable companies to visit in the future.

## Acknowledgment

I would like to thank Scott Case for all of his hard work in helping to organize the inaugural offering of the Clean Energy Tech Treks. Scott was incredible in establishing the site visits with companies from his network. He also set a great example for what the different site visits should include.