

Collegiate Wind Competition
Final Metrics Report
University of Wisconsin-Madison



Team Members:

Team Lead: Nina Bosnjak (nbosnjak@wisc.edu)
Claire Olson (cmolson23@wisc.edu)
Megan Volkening (mvolkening@wisc.edu)

Recruitment Plan Outcomes

WiscWind has expanded its recruitment efforts across campus throughout the year. In September, two representatives of the team tabled at E-Bash, an engineering-oriented organization fair. Here, WiscWind recruited 74 prospective students. Following this, a mass recruiting email was sent to all undergraduate students, allowing for non-engineering majors get involved as well. A week later, WiscWind attended and tabled at Sustain-a-Bash, where 15 additional students were interested. All efforts proved successful, leading to an attendance of 59 students at the Kick-Off meeting. These back-to-back recruitment efforts allowed for a 200% increase in active WiscWind members, growing from 14 to 28. Breakdowns of these members in terms of grade level, sub-team involvement, and major are detailed below in Figures 1-2 and Table 1.

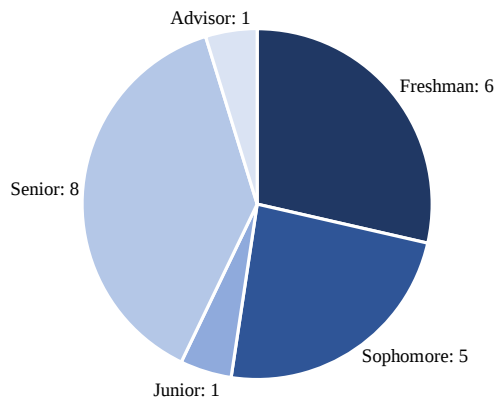


Figure 1: WiscWind members by grade level

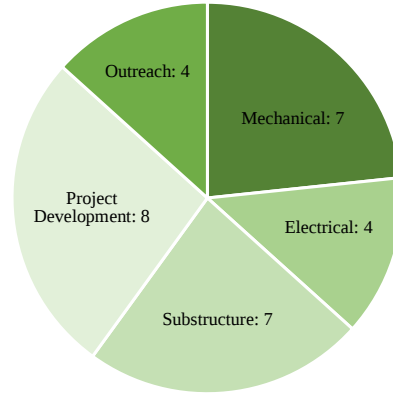


Figure 2: WiscWind sub-team membership

Table 1: Breakdown of Majors Within the WiscWind Team

Computer Science	Data Science	Electrical Engineering	Environmental Engineering	Environmental Science
1	1	3	1	2
Geological Engineering	Sustainable Systems Engineering	Mechanical Engineering	Chemical Engineering	Communication Arts
2	1	9	1	1

Metric Comparisons to the University of Wisconsin – Madison:

Gender – Women comprise 53.1% of the total undergraduate student population at UW-Madison. Within the College of Engineering, only 27.6% enrolled are women. In WiscWind, 31.8% of active members are women, outnumbering the overall College’s composition. Growing 4.5 times from a total of 7% in the 2021-2022 schoolyear, the recruitment efforts to involve women have been successful.

Race – The breakdown of student enrollment at the University of Wisconsin-Madison, the University of Wisconsin-Madison College of Engineering, and WiscWind are compared in Figures 3-5:

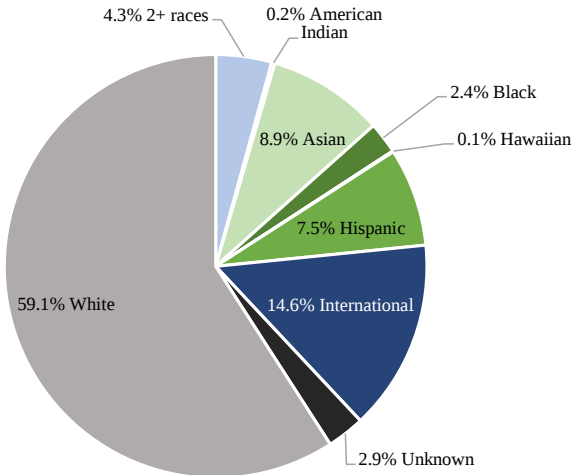


Figure 3: Breakdown of UW-Madison student population by race

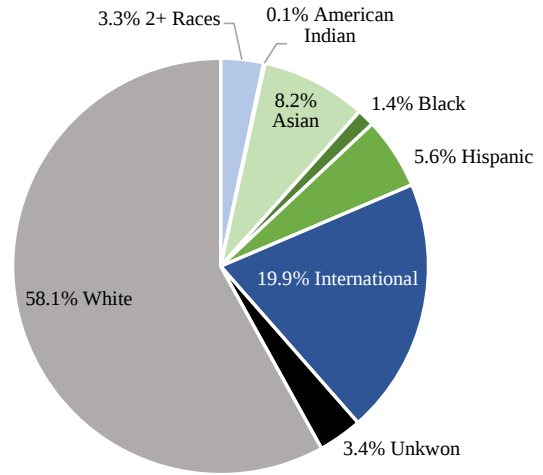


Figure 4: Breakdown of the UW-Madison College of Engineering population by race

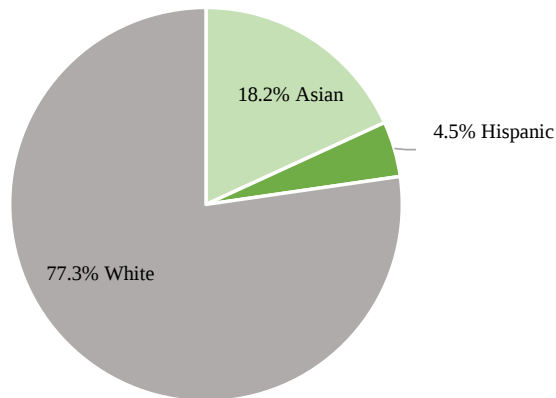


Figure 5: Breakdown of WiscWind members by race

While WiscWind has increased its minority representation greatly within the team from the previous year, more efforts will be placed in following years to provide minority students with a space to explore their passions on campus. Currently, 40% of the team leadership positions are held by minority students.

Social Media

Over the course of the 2022-2023 school year, the Instagram account has created 13 posts and 25 stories, with a total of 260 followers. Currently, the Instagram strategy focuses on posting stories to increase community engagement at outreach events across campus and the greater Madison community.

The original social media plan included posting updates on outreach events WiscWind is involved with, as well as team updates. Along with this, a social media campaign introducing each of the team leads weekly was successfully completed.

With a breakdown of the average like-count on different types of posts, found in Figure 6, the combination of both graphics and photographs is the most well-received type of post on the Instagram, indicating the direction that the social media approach should continue with.

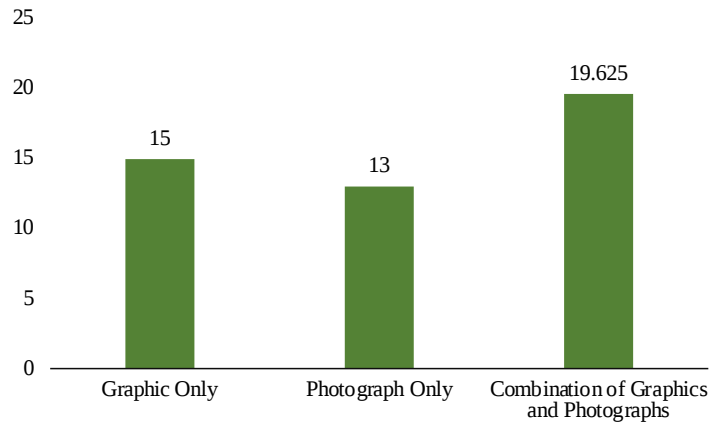


Figure 6: Average like count on varying types of WiscWind Instagram posts

Efforts have been made to expand connections through LinkedIn as well. A post following a press release written by the Wisconsin Energy Institute about the team was posted by the College of Engineering. This post amassed 94 reactions, 7 comments, and 5 reposts. Along with this, a full article was written by the Badger Herald, a student-run newspaper on campus. The article appeared in print and web form. Appearing in a campus email to students, this article reached all 46,000 students at the university.

Interviews

The interviews and various events held by WiscWind proved to be successful in creating industry connections. The four interviews had 5, 6, 7, and 10 attendees, respectively. WiscWind also hosted a field trip to Montfort Wind Farm, where the team was given a tour of the facilities and spoke to many employees within varying areas of focus on the farm. Table 2 highlights the network connections made.

Table 2: Industry Connections Made Within the WiscWind Organization

Westwood Professional Services	Invenergy	Wisconsin Public Service	KidWind Organizers	EHS Support
2	2	3	2	2

Of the recorded industry connections, two led to interviews and job placements at Westwood Professional Services and Invenergy. Team members reported added value from the interviews in learning about company-level practices for renewable energy.

Aside from professional connections, the team also connected with the greater UW-Madison sustainability community this school year. WiscWind was integral in the creation of an Engineering Sustainability Coalition to increase renewable energy efforts on campus. This will lead to increased industry contacts in subsequent years, as well as sustainability initiatives that will have lasting effects on the campus community that will outlive this year's competition.

Outreach Events

The focus of the team's high-level outreach goals was to inspire and educate K-12 students in the community by conducting engaging presentations and activities. By participating in nine activity-based outreach events designed for students, this high-level goal was met. In these events the team was able to inform participants about wind energy concepts, the current state and future of wind energy in Wisconsin, and the many pathways into the industry. Table 3 outlines the various outreach events completed throughout the 2022-2023 school year.

Table 3: WiscWind Outreach Involvement in the 2022-2023 School Year

Date	Name of Event	Event Details	WiscWind Involvement
9/16/22	Sustain-a-Bash	Introduction for new students to sustainability resources and organizations on campus. Estimated attendance: 50.	3 WiscWind members showcased the comparisons within renewable energy to concepts found in nature.
10/2/22	Lego League	A local Lego League reached out to WiscWind for advice. Estimated participant attendance: 8.	6 WiscWind members met with a local Lego League team to discuss renewable energy, as well as give advice and aspects to consider as they move forward with their research and build a model for their judges.
10/20/22	Blow off "STEAM"	Madison Public Library hosted this event to encourage children in the community to engage with science through hands-on activities. Estimated attendance: 24.	2 WiscWind members staffed a turbine blade challenge, which encouraged problem solving and adaptation to wind turbine blades (shape, pitch, number of blades) to convert more energy with their designs.
10/20/22	4-H Dane County "Science Fright Night"	An outreach event where many hands-on activity tables were present for students to explore different science concepts and phenomena. Estimated attendance: 24.	2 WiscWind members staffed a turbine blade challenge, which encouraged problem solving and adaptation to wind turbine blades (shape, pitch, number of blades) to convert more energy with their designs.
3/3/23	Service with Youth in STEM	An outreach program designed to bring hands-on activities for students to explore different science concepts. Estimated attendance: 25.	1 WiscWind member had a turbine blade challenge, which encouraged problem solving and adaptation to wind turbine blades (shape, pitch, number of blades) to convert more energy with their designs.
3/4/23	Wisconsin KidWind Challenge	The middle- and high-school equivalent to the Collegiate Wind Competition, plus a public science expo. Estimated attendance: 400.	The entire WiscWind team was present to lead multiple activities, help test the turbines, and talk to the participants about the Collegiate Wind Competition and about future career exploration in the renewable energy industry, highlighting the industry interviews conducted.
4/15/23	Science Expeditions Open House	A campus-wide event for community members to engage with science and activities. Estimated attendance: 200.	2 WiscWind members staffed a turbine blade challenge, which encouraged problem solving and adaptation to wind turbine blades (shape, pitch, number of blades) to convert more energy with their designs.
4/21/23-4/22/23	Engineering EXPO	Students from schools throughout Wisconsin visit campus to engage in a showcase of the world of science and engineering. Estimated attendance: 600.	2 WiscWind members staffed a turbine blade challenge, which encouraged problem solving and adaptation to wind turbine blades (shape, pitch, number of blades) to convert more energy with their designs.
5/4/23	4-H Dane County Science Night	An outreach event where many hands-on activity tables were present for students to explore different science concepts and phenomena. Estimated attendance: 150.	1 WiscWind member staffed a turbine blade challenge, which encouraged problem solving and adaptation to wind turbine blades (shape, pitch, number of blades) to convert more energy with their designs.