

Western Washington University Associated Students
Green Energy Fee Committee Meeting

Thursday, April 10, 2014

VU567

Committee Members Present: Robby Eckroth, Chair (AS VP Student Life), Josie Ellison (AS VP for Academic Affairs), Regan Clover (GEF Program Coordinator), Ashley Selvey (Student at Large), Ed Simpson (Rep. Business and Financial Affairs), and Brain Rusk (faculty)

Absent: Grace Wang (faculty), Seth Vidana (Sustainability Manager), Nina Olivier (AS ESP Associate Director), and Sadie Normoyle (GEF Education Coordinator),

Advisor(s): Kevin Majkut, Director of Student Activities

Guest(s): David Patrick, James Mayther, Jim Kinzele, and Joshua Bennett

MOTIONS

GEF-14-S-02 Approval of Red Square Convenience Composting to Move on to the Final Application Stage. *Passed.*

GEF-14-S-03 Approval of Western Wind Energy to Move on to the Final Application Stage. *Passed.*

Robby Eckroth, AS Vice President for Student Life, called the meeting to order at 2:32 p.m.

I. Call to Order

II. Additions/ Changes to the Agenda

III. Nova Solar Presentation

This team Nova Solar Technologies consists of David Patrick, James Mayther, Jim Kinzele, Joshua Bennett, and Sarah O'Sell (who was not present at the presentation). They attended the Environmental Innovation Challenge at the University of Washington last week. Nova Solar Technologies came in second place and also won the Clean Energy Initiative from the window they have created. They created a window that generates solar power. Their window is made up of a pane of glass, a palmer, and another pane of glass. They explained that as the light goes in through the window it is absorbed by the palmer. The window is wired into the building and it converts the sun's rays into energy. This project would engage the student body, local community, and has the potential to be Western's first global technology startup which would increase enrollment and interest in the University. They explained there would be no damage done to electronic devices because their prototype consisted of a USB module that converted the battery voltage to an output that is standardized through USB. They explained that with the prototype, they were able to show that anyone with a USB devices was able to charge their phone or other electronic devices. They said when they take this project to the next level they will be teaming with Alpha Technologies who acquired a solar company called Outback Power. They said Outback Power is one of the leading micro inverter companies in the Northwest. They are planning on working with them to get an Underwriters Laboratory (UL) approval along with an off the shelf model that they would be able to use. They explained that obtaining an Underwriters Laboratory would take a few years. They said they wouldn't have time to get UL approval for a micro inverter they designed, which is why they are choosing to get one made from Outback Power. They will also be working with local manufacturers to ensure the safety of this project. They said nanoparticles in this technology is encased with a non-toxic palmer. They explained that if they smashed the window, there wouldn't be any additional hazards outside of a normal window and broken glass. The window they would make would be completely transparent, however it would have slight orange tint to it. They explained that this slight tint to the window would attract and

engage the students. They said if they wouldn't want an orange tint, there is a possibility for them to tint the window some other color. The location they chose would be in the Viking Union right across from the coffee shop. They proposed a view milestones for this project because they haven't made this window in a big size before. They said phase one would last 9 to 12 months after they get the initial funding which would be \$15,000. In this phase they would create a more solid and polished window. They would present this to faculty in the electronic engineering and chemistry department as well as outside experts in this field to guarantee that it would be safe window for student use. This prototype would be a one square foot fully functioning desktop prototype. They said phase two would last 12 to 20 months. They said this would require about \$35,000 and would allow them to scale up to the full size window they want to create, which would be about one square meter big. They said during this time they are going to develop educational outreach programs to educate students and people in the community. They said that phase three would be the actual installation of the window in the Viking Union, which would require around \$50,000 in funding. Clover wondered how the work would continue because most of the team members will graduate by spring of 2015 and it is a multi-stage proposal over 2 years. They said faculty advisor plans to be the advisor for the duration of the project. They said there will be new students to come in and fill their roles when they graduate. They said the team members that graduate plan to stay on as consultants to see this project through. Clover wondered if the one foot by one foot window in phase one would be a display project. They said it could be used as a display project. It would be a fully functional model and it could be used as an educational tool to bring to classes and clubs. They said it would be a more polished and refined prototype. Rusk wonders what wattage is per square meter. They said it would be 20 watts per square meter. They said this adds up if you put these windows in multiple places in buildings. Rusk wonders where the costs come in to this. They said largely the costs would be the nature of materials that are being used. There aren't very many distributors for these things yet, so the cost of the materials is ultimately what drives the cost of this project. Majkut wondered if there are intellectual property rights issues when talking about developing this kind of technology. They said they have currently been in contact with a lawyer on this issue. Clover asked if they are funding someone's time or are they asking to fund materials. They said largely it would be funding materials and the only time commitment would be contacting a contractor to help them install this window. Ellison wondered what the lifespan would be and who would be responsible for repairs. They think the lifespan would be about 30 years and Nova Solar Technologies would be responsible for repairs. They said when they take Nova Solar Technologies forward, they will make improvements and potentially upgrade this to a better product in the future. Clover wondered where the prototype they make would be housed and who would own it. They were thinking of housing this in the sky bridge in a display case and the university would own it. Rusk wonders if this requires any special glass. They said they are opting for a more clear type of glass than you typically see. Rusk wondered where the micro inverters go. They said it would be in the bottom of the window. They said the company they will work with would make a specialized micro inverter for this project because a regular micro inverter has more power than is needed. Rusk wondered if they could increase the wattage by stacking the window. They said that each window absorbs a certain amount of light, and by stacking the windows you would decrease the light that is absorbed. Eckroth said this seems like a huge investment and could put Western on the radar for a lot of other institutions. He thinks this is a tricky situation because Western has never done something like this before, so they might need to talk to the attorney general. Clover said the policy is that if a student makes it then it's theirs, but if it is up for hire than the university owns it. Majkut said the committee should make their decision and then make sure that this base is touched in the process. Clover is concerned about their multi-year plan. She thinks it is smart, but they should only think about a one year insight. Eckroth wonders if they should come back with a plan for a bigger window in the future. Rusk doesn't think the point of GEF is to fund this company to develop. He said there are lots of things that could happen before this project comes to development and there are no promises that this project would take off. He recommends making something smaller and advancing from there.

Clover said the window they are making in phase one would be a demonstration and not an environmental reduction piece for campus. Ellison wonders if they could create a window of a smaller size than their phase three window and install it. Clover mentioned that the Viking Union signed up on their installation place. Majkut said this location of the window would be good in the short term, but in the long term it wouldn't be good if they plan to cover the plaza.

IV. Discussion and Consent

- Red Square Convenience Composting

Rusk thinks this is good idea and is worth pursuing. 3 dittos. Eckroth thinks they chose a good area for the pilot of this project. He said if the university likes it they can possible expand to other areas on campus in the future. Clover said the price estimate was \$4,400 to \$6,500. Clover said if this is approved then they would move on to the final application stage. She explained that May 21st would be the due date of the final application, which would let them review and make their decisions by dead week. She said this would go the AS President and the president of the university to sign. She said the installation of the approved projects would occur next school year. Eckroth mentioned that Ed Simpson was unable to make it to the meeting this week, but reviewed the project presentation and submitted his vote via email.

MOTION GEF-14-S-02 By: Ellison

Move to Approve the Red Square Convenience Composting Proposal to the Final Application Stage.

Second: Selvey Vote: 5 - 0 - 1 Action: Passed

- Western Wind Energy

Ellison was glad the wind turbine they chose wasn't huge and was a vertical turbine. 2 dittos. Rusk thinks that placing these on top of Parks Hall is good placement because it would receive more wind than if it was placed on the ground. Eckroth said it might be more cost efficient with 3 turbines, but the cost is sometimes unpredictable. Majkut said having it on Parks Hall would bring attention to both this project and the solar panel project on top of the Environmental Studies building. Eckroth mentioned that Ed Simpson was unable to make it to the meeting this week, but reviewed the project presentation and submitted his vote via email.

MOTION GEF-M-S-03 By: Selvey

Move to Approve the Western Wind Energy Proposal to the Final Application Stage.

Second: Ellison Vote: 4- 0-1 Action: Passed

V. Adjourn

THE MEETING WAS ADJOURNED BY ACCLAMATION AT 3:29 P.M.