THE BUSINESS OF SUSTAINABLE ENERGY

Partnership with Business
Walnut High School
California
2017-2018

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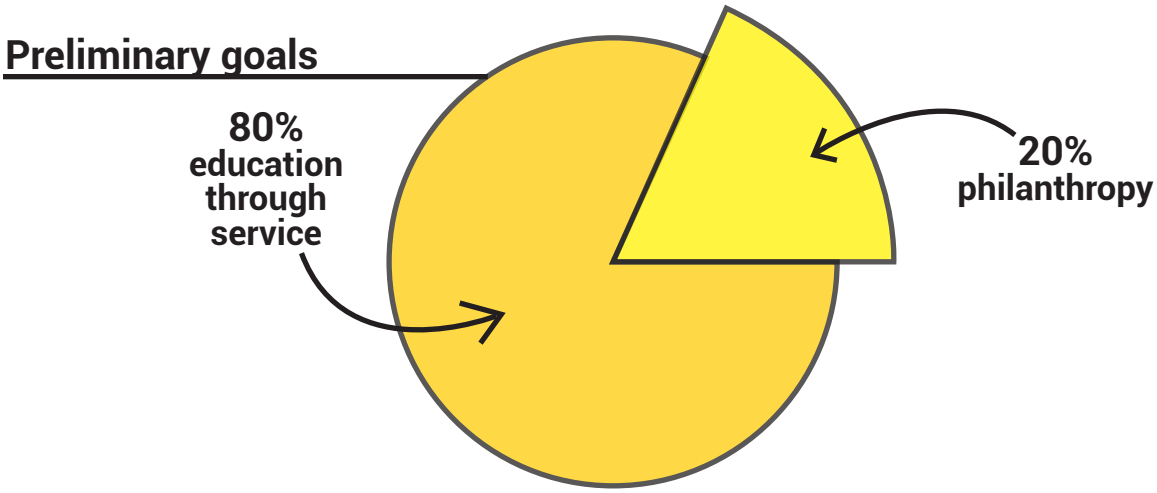
INTRODUCTION

SunSpark Technology, Incorporated

Every family deserves a healthy society to live, love, and laugh in an engaging environment, and SunSpark Technology, Incorporated (SunSpark) has provided a solution. As electricity continues to shape our lives each day, we have finally found an alternative source that is safer, cleaner, and affordable for citizens abroad: solar panels. With the initiative to ignite worldwide change, SunSpark is a company dedicated to building a clean, emissions-free environment by providing solar panels across the globe. With just one factory, it is able to manufacture, assemble, distribute, finance, and promote its product, minimizing costs and underscoring the first step on an energy ladder to full electrification. On a domestic standpoint, SunSpark has supported thousands of companies to create jobs and economic opportunities for many of us who enjoy the numerous privileges we may take for granted at times. As the Walnut High School chapter of Future Business Leaders of America, we partnered with a local division of SunSpark in Riverside County.

Members were able to visit SunSpark's Riverside facility and headquarters. It is located in an industrial park.

Many different aspects were taken into account when considering our partnership with SunSpark. The primary goal was to educate students and faculty on the various aspects of the business: finance, marketing, operations, distribution, management, and general technological advancements within the firm. We desired to simulate the same work that our partners perform on a daily basis when setting up solar panels for environmentally friendly individuals, and by creating a solar-powered fan stationed in the track and field stadium, we looked to bring members together and stimulate awareness of the role solar energy plays in the local, state, and national economy. Our project was specifically challenging and labor-intensive due to our desire to promote heavy member involvement in our project, emphasizing the “Service” pillar that FBLA provides for chapters. Not only does business benefit individuals within companies, but it also can assist others in the community and across the world. We looked to create a project that would emphasize working for something greater than oneself, communicating constantly with affiliates from an international organization to focus on something that will leave a lasting legacy at our school for years to come. Our Future Business Leaders of America chapter has a newfound understanding of business philanthropy and the purpose of service when spread across a span of diverse individuals working towards one primary goal.



DEVELOPMENT

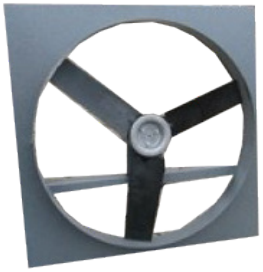
Goals of the Partnership

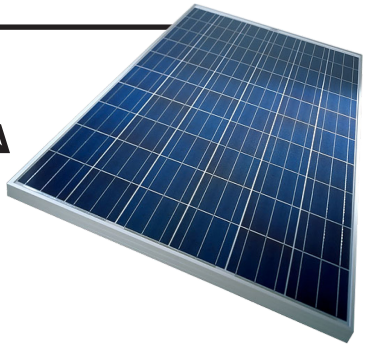
As our chapter discussed the Partnership with Business project, we had gone through many trials to find the perfect company to work with. Our goal was to develop an impactful product that would not only benefit our school but the company we partnered with as well. However, since our chapter is located in a small city, many local businesses are very small or transnational corporations. As Southern California is a primarily dry area that has a lot of sunshine, we came up with a project that was environmentally friendly and cost-efficient.

After weeks of planning, we began to reach out to different solar panel businesses over the phone and through emails. We were finally able to partner with SunSpark, a company based in Riverside. The goal of our project is to create a solar-powered fan that would primarily be stationed in the track and field stadium. In addition to the fan, the solar panel and turbines will be fastened to a mobile cart that will easily transport the fan to different areas of the campus. This project is meant to teach students the different industries in business and have students be more aware of the secondary and tertiary sectors of the economic structure. The secondary sector being where the raw materials are turned into usable goods, and tertiary primarily based on services. We are here to serve the people and to teach them about the benefits of clean solar energy.

Products used

20" DC super fan





custom-made solar panel

Planning Activities

Our chapter felt that the involvement and support of the members, as well as the school faculty, was a key aspect to successfully partnering with SunSpark. Before beginning our project, however, chapter officers conducted research in the form of meetings and tours. We first met with Ms. May, the environmental science teacher at our school. We believed that she would be able to help us the most because of the fact that her class works and focuses on preserving the natural environment and how we as a society can use alternative sources of energy. We presented our designs and ideas to her and she believed that the solar fan we have planned on creating would benefit our school because of the prominence of athletes and the warm Southern California weather.

Soon after meeting with Ms. May, our chapter contacted the leaders of the company and scheduled a meeting to discuss our plans of creating the solar fan and how the company would be able to aid us in our mission. After meeting with the president, Mrs. Jie Zhang, we had decided to create a simple design that worked efficiently and cleanly. After that encounter, our chapter had met with the company numerous times to finalize the design. Once the solar powered fan was completed, we met with the principal of Walnut High School to demonstrate the aspects and benefits of solar energy.

Timeline of planning

August
Members met up to brainstorm ideas.

September
We reached out to different solar panel companies.

November
We met up with Mr. Shang Lin of SunSpark

December
We contacted Backwoods Solar and received the fan.

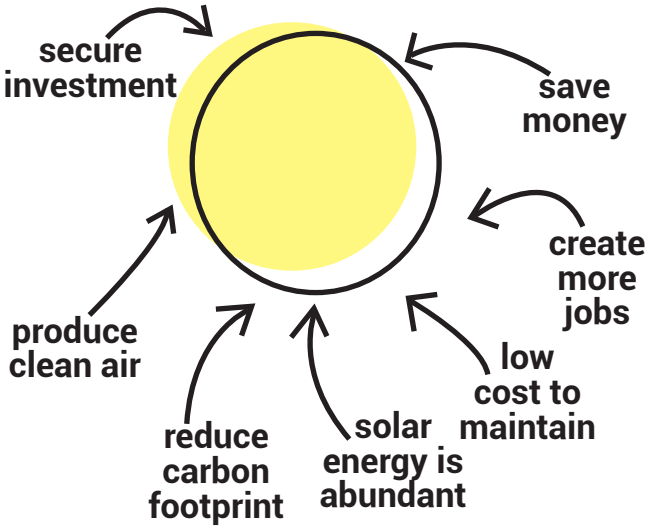
January
A business tour was conducted at the SunSpark facility.

February
Walnut FBLA unveiled the project to school administration.

Roles of Chapter Members

The involvement of members is crucial to having a successful partnership with businesses. Since our chapter decided to focus on preserving the environment, we discovered that while in use, solar panels create zero waste and zero emissions. Unlike fossil fuel power plants, the solar panels produce clean, renewable energy from a fuel source that requires no locating, excavation, transportation, or combustion. It's a simpler, cheaper, cleaner, and all-around better energy solution. With this in mind, the members of the Walnut High School Chapter brainstormed ideas that would effectively integrate solar energy with a commodity that benefited the school in the process. After searching and planning, the members suggested the potential idea of a solar powered fan. They then helped do research on different fan models that would work correctly with the solar panel. When we established our partnership with SunSpark, we were then able to look into finding a suitable fan. The members and officers then met with Mr. Shang Lin, SunSpark's general manager and engineer, to watch the process of connecting the two parts and creating a new appliance. After finishing the project, we participated in a school-wide ceremony commemorating our donation to the school. The members and officers were really pleased with the outcome of the project. With that in mind, the members of the Walnut Chapter wrote letters of appreciation to Sunspark and Backwoods Solar. The project could not have turned out any better, and the students of Walnut High School can now enjoy a breeze while proceeding in their daily athletics.

Benefits of solar energy



IMPLEMENTATION

Activities for Learning

The implementation of our project included a process of three parts. This included a meeting with school administration and the company executives at SunSpark Technology, Inc., informational meetings discussing the benefits of solar energy, and a ceremony to promote our cause and the companies' cause. Our chapter met with business leaders around our school community and within the solar panel company. We first met in early November with Mr. Shang Lin, head engineer and general manager at SunSpark Technology, Inc. over a business dinner that was organized in its entirety by members of the Walnut FBLA chapter and the Partnership with Business team. Over the course of three hours, our chapter was able to learn the mechanics of building a solar panel and how we would be able to integrate it into a project that benefits our school. From this meeting, we learned that there was more technical precision that went into creating a solar panel than we had originally thought. As a result, chapter members were encouraged to conduct their own research and find feasible ways to integrate solar energy into our community. Students organized a meeting in late November with Walnut High School's administrative board in order to gain a more thorough understanding of what our school needed and how we could work to improve its infrastructure. We learned that student athletes training in the summer season were often overheating in the Southern California weather. Shortly after, we discussed ways to improve the issue of overheating and how we could incorporate education into our project.

As part of our project's education segment, members learned the workflow of an industrial business.

What we ultimately decided on was a solar paneled fan that would be situated near the football stadium so as to help athletes keep cool during extended training sessions. We reasoned that this would be an eco-friendly way to improve the training environment of student athletes as they practice during the off-season and for competitions.

For the fan, we reached out to Idaho-based solar technology company Backwoods Solar Electric Systems and were able to negotiate a discount on the basis that we were a nonprofit organization. From these transactions, members and officers alike were able to learn the skills necessary in business communications and composing formal transactions.

The second phase of our project was holding informational meetings where officers and members discussed the benefits of solar energy. While the other phases were geared more towards development and planning, this was intended to be more informational so that members were able to learn more about the impact of our environmental footprint and how solar panels would be the solution to sustainable energy in the future. We held discussions where members were able to share their opinions and develop their own plans for creating a more environmentally friendly atmosphere at our school. Overall, these meetings helped in teaching members the benefits of switching to solar energy, being more aware of how our actions affect the environment, and thinking in a more technical and entrepreneurial way. Another aspect of this education segment of our project was the business tour. After communicating with SunSpark Technology, Inc., members had the opportunity to visit the company's headquarters in Riverside. There, they met with Mrs. Jie Zhang, president of the company, and were exposed to the manufacturing process of solar panels, which often takes weeks to complete. We were given an exclusive insight into how the panels are designed and the internal workflow of the company.

The third phase of our project was a promotional ceremony and exhibition of our project as a demonstration of what members learned from this project. Walnut FBLA communicated with Mr. Brandon Dade, principal of Walnut High School, to arrange a presentation to school administration. This was a way to promote our cause of environmental awareness while also showing appreciation to our sponsors. In this showcase, members learned the importance of lateral communication and promotion. Overall, it was an effective way of presenting our project as a gift of gratitude to our school and business partners. After our ceremony, Mr. Dade congratulated us on a successful project, stating “this project will pave the way for future contributions of goodwill to our school."

Mrs. Jie Zhang of SunSpark demonstrates the production process of the solar panel.

Roles of Business Leaders

Throughout our project, Walnut FBLA members spoke with leaders from a wide array of specialties across the western United States. We first met in November with Mr. Lin, who, as head engineer, provided us with the necessary information regarding AC/DC power outlets and the process of connecting a solar panel with the fan. His expertise aided our project and provided us with greater knowledge of physics and engineering. Later, Mr. Brandon Dade, principal of Walnut High School, and operations manager Mrs. Jacqueline Rojas guided us through the many structural regulations, as Walnut High School is a publicly funded institution. In December, Walnut FBLA members initiated a correspondence with Mr. Brian Willey, a technical salesperson at Backwoods Solar, inquiring about their industrial-grade solar fan. Through this transaction, members developed skills in business communication. In January, the fan and solar panels were acquired, and we met with Mrs. Jie Zhang of SunSpark to finalize all financial and promotional aspects of the project.

Roles of Chapter Members

1. Worked to set up the partnership with SunSpark Technology, Inc.
2. Met with Shang Lin to learn about the mechanics and benefits of solar energy.
3. Visited SunSpark Technology, Inc., toured the facility, and met president Jie Zhang.
4. Wrote letters of appreciation to the workers at SunSpark and Backwoods Solar.
5. Participated in a ceremony dedicated to the finished solar panel project.

Walnut FBLA members played an integral role in the acquisition of the sponsorship.

Results of the Project

It is obvious that with our growing dependence on nonrenewable resources, we must find an environmentally-friendly and economically sound solution. With the development of new technologies, it is evident that solar energy is a reliable way for more people to enjoy the benefits of improved climate control. After the installation of our solar paneled fan, we noticed that more students became interested in the mechanics of solar energy and have expressed their interest in installing a system in their homes. Many more have expressed gratitude for the cool breeze that the fan brought to the football stadium. By forming a partnership with SunSpark Technology, Inc., and communicating with Backwoods Solar, over 90 students now have a greater understanding of business careers in engineering and environmental causes.

It also resulted in our chapter developing a better understanding of the integral role that solar energy plays, especially in conjunction with the great amount of sunlight that characterizes Southern California. Overall, we believe that every person who was involved in our project, sessions, and implementation has a much greater understanding of what business careers in solar energy really mean to their family, community, county, and state.

Athletes enjoy the cool air provided by the solar panel and fan after a long day of track and field practice.

Concepts Learned

This project enlightened the members of our chapter in many ways. 14 members met with school administration and more than 20 met with the business leaders in their respective companies throughout the year as part of the development of this project. We were able to learn the perspective of environmental preservation through the leaders of that field. They gave us unparalleled insight into the daily research they conduct and how it all comes together in the final project. The culture of business is constantly changing and is directly related to the development of technology and mass media. As solar energy becomes more dominant in an ever-increasing need for sustainable energy, these companies are pioneering a new method of innovation within the realm of renewable resources. The members of Walnut FBLA were able to experience this firsthand through their business tours and meetings with company executives.

We learned that the first step to making an impact on the environment as a whole is to start small. What began as an endeavour to help our school's athletes soon blossomed into a path of enlightenment as we learned that we are also improving the infrastructure of the city of Walnut.

Impact of the Project

This solar paneled fan is the first of its kind in any of the schools within the Walnut Valley Unified School District jurisdiction. We aim to establish a legacy of improvement and passion to serve our community. Members were able to discover a newfound passion in sustainable energy studies, as exemplified in meetings with Mrs. Kathleen May, an environmental science teacher at Walnut. The leaders at SunSpark were impacted in that it was their first involvement relating to community service since the company expanded to the western United States. They appreciated working with students who had a common goal of improving the community and were willing to learn about sustainable energy. They received publicity from our school and district.

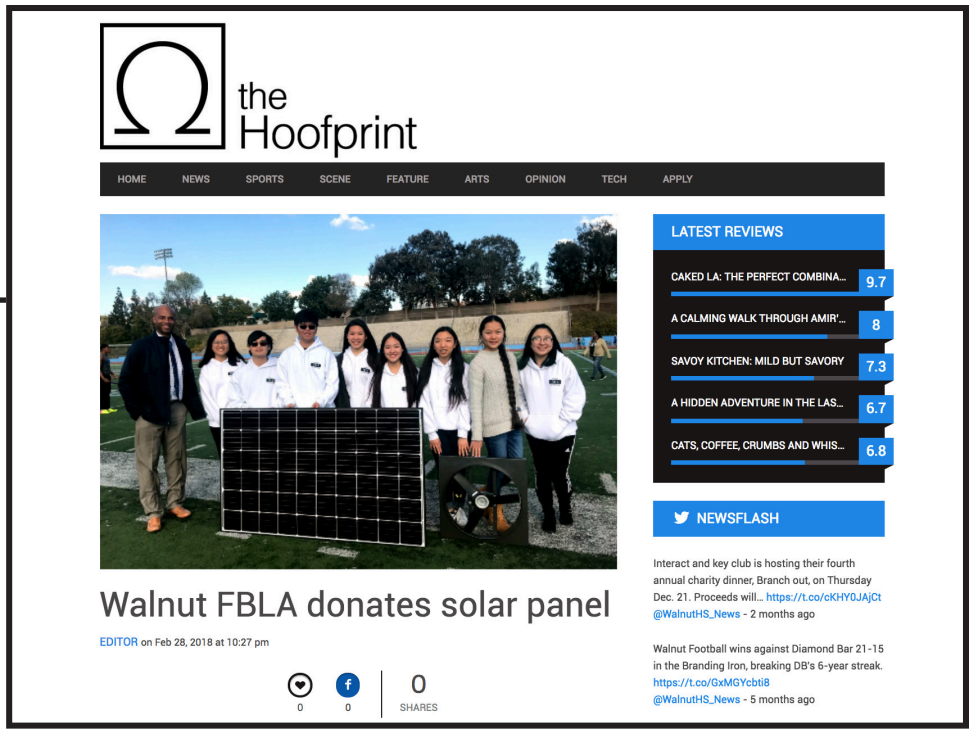
Degree of Involvement

Members met with Principal Dade of Walnut High School to discuss project logistics.

More than 90 members of our chapter were exposed to our project, and many actively participated in the events and meetings that were planned, some even taking on organizational roles. Two representatives met with Shang Lin, who then reported the details of that meeting with the rest of the Walnut FBLA chapter, and 14 members met with school administration. We made many connections with the business leaders. We met with Jie Zhang, president of SunSpark, to familiarize ourselves with the business model at their Riverside headquarters. We consulted with Brian Willey, technical salesperson at Backwoods Solar, to discuss the acquisition of a fan. We spoke with Brandon Dade and Jacqueline Rojas, school administration, numerous times in the initial stages of planning and developing the project. We worked with the Walnut High School Publications staff to get our work published in the national award-winning newspaper, The Hoofprint.

PUBLICITY

Walnut High School's national award-winning newspaper, The Hoofprint, published an article highlighting our project and the involvement of SunSpark.



the Hoofprint

HOME NEWS SPORTS SCENE FEATURE ARTS OPINION TECH APPLY

Walnut FBLA donates solar panel

EDITOR on Feb 28, 2018 at 10:27 pm

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NEWSFLASH

Interact and key club is hosting their fourth annual charity dinner, Branch out, on Thursday Dec. 21. Proceeds will... https://t.co/cKHY0JAjCt @WalnutHS_News - 2 months ago

Walnut Football wins against Diamond Bar 21-15 in the Branding Iron, breaking DB's 6-year streak. https://t.co/GxMGYcbti8 @WalnutHS_News - 5 months ago

Mr. Brandon Dade, principal of Walnut High School, publicly congratulated the FBLA team to an audience of over 1,000 followers, while also promoting SunSpark's donations.

APPENDIX A

Name: Ashley Liang
E-mail: officers.whsfbla@gmail.com
Telephone: 6263829704

Comment: Dear Backwoods Solar personnel,

I am contacting you on behalf of Walnut High School's Future Business Leaders of America (FBLA) program, one of the largest non-profit student-run organizations in the nation. As part of our Partnership with Business project, we are hoping to promote business interests as well as establish a more environmentally friendly school setting. We are developing a project that includes a solar panel with an outlet that can connect to a fan. We are interested in your Solar Direct DC Super Fan (20 inches). Since we are a non-profit and primarily self-sufficient in terms of funding, would it be at all possible to negotiate a donation?

If you have any questions, please don't hesitate to contact us! Thank you very much for your time, and we look forward to hearing from you.

Best regards,
Ashley Liang
Walnut FBLA Officer Team

From: Walnut HS FBLA [mailto:officers.whsfbla@gmail.com]
Sent: Sunday, January 07, 2018 6:11 PM
To: Backwoods Solar - Customer Support
Subject: Re: Contact Form

Hello Brian,

Thank you so much for the offer! A discount would be greatly appreciated. May I ask if the Solar Direct DC Super Fan is suitable as a cooling device for athletes rather than for use in a greenhouse? We plan on using it to provide air conditioning during athletic practices. Again, thank you for your response, and we look forward to working with you.

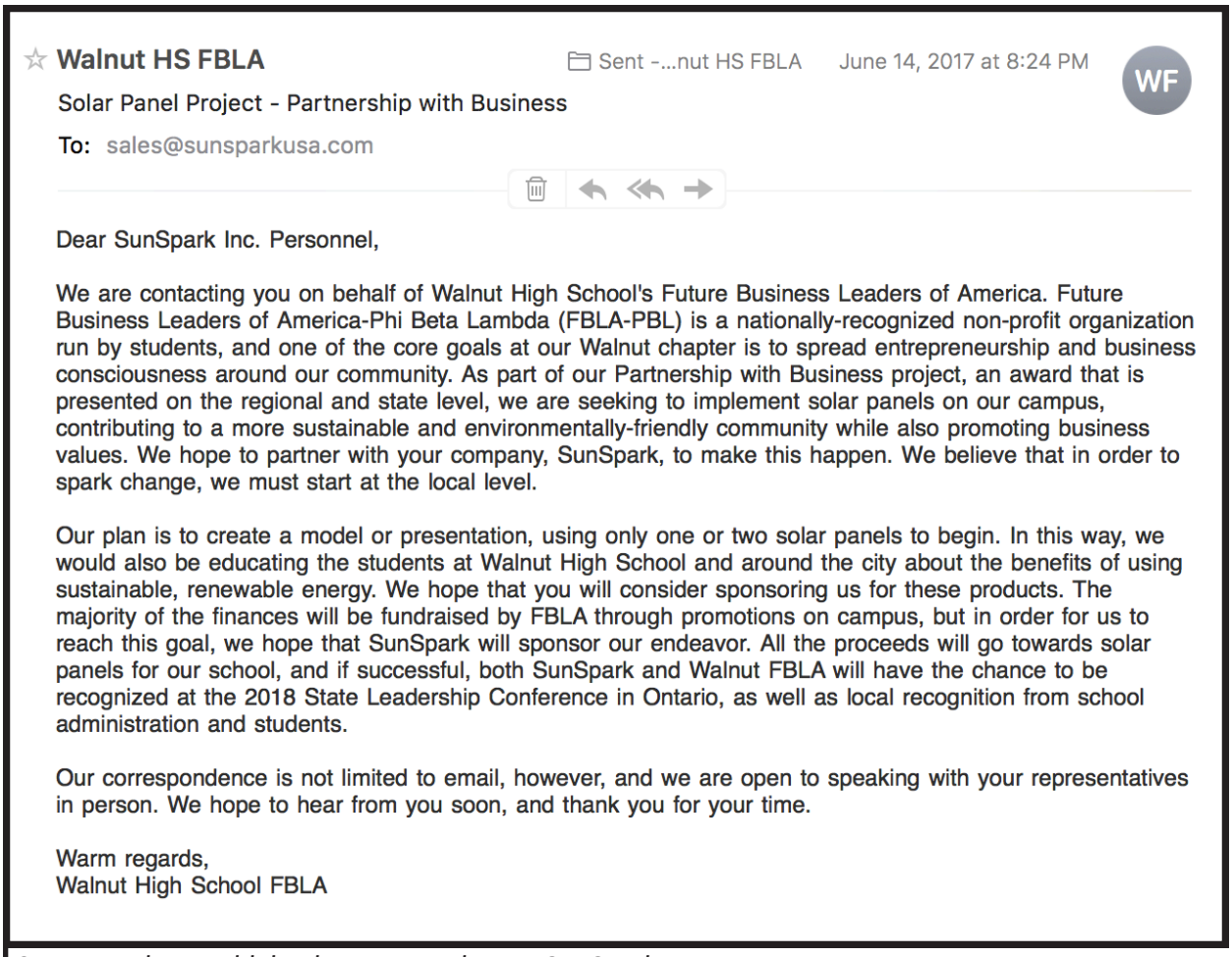
Best Regards,
Ashley Liang
Walnut FBLA Officer Team

On Wed, Dec 20, 2017 at 12:57 PM, Backwoods Solar - Customer Support <customersupport@backwoodssolar.com> wrote:
Ashley,

We could offer you a greatly reduced price on the fan. But we won't be able to make a donation. We can sell the fan for $290 plus shipping. The shipping is usually around $30.

Correspondence with business executives at Backwoods Solar Electric Systems

APPENDIX B



☆ **Walnut HS FBLA** Sent -...nut HS FBLA June 14, 2017 at 8:24 PM WF

Solar Panel Project - Partnership with Business

To: sales@sunsparkusa.com

Dear SunSpark Inc. Personnel,

We are contacting you on behalf of Walnut High School's Future Business Leaders of America. Future Business Leaders of America-Phi Beta Lambda (FBLA-PBL) is a nationally-recognized non-profit organization run by students, and one of the core goals at our Walnut chapter is to spread entrepreneurship and business consciousness around our community. As part of our Partnership with Business project, an award that is presented on the regional and state level, we are seeking to implement solar panels on our campus, contributing to a more sustainable and environmentally-friendly community while also promoting business values. We hope to partner with your company, SunSpark, to make this happen. We believe that in order to spark change, we must start at the local level.

Our plan is to create a model or presentation, using only one or two solar panels to begin. In this way, we would also be educating the students at Walnut High School and around the city about the benefits of using sustainable, renewable energy. We hope that you will consider sponsoring us for these products. The majority of the finances will be fundraised by FBLA through promotions on campus, but in order for us to reach this goal, we hope that SunSpark will sponsor our endeavor. All the proceeds will go towards solar panels for our school, and if successful, both SunSpark and Walnut FBLA will have the chance to be recognized at the 2018 State Leadership Conference in Ontario, as well as local recognition from school administration and students.

Our correspondence is not limited to email, however, and we are open to speaking with your representatives in person. We hope to hear from you soon, and thank you for your time.

Warm regards,
Walnut High School FBLA

Correspondence with business executives at SunSpark