Chapter Leader Guide

The Ultimate Guide to Starting & Running an ESW Chapter

ESW HEADQUARTERS

Chapter Leader Guide

Published October 2015

Acknowledgments

This guide would not exist without the gracious help, and occasional persistence, of my coworkers and friends. So thank you to Alex Dale, for being there at 2am when I felt like I could not continue writing. To Ben Gould for cheering me on even when I did not believe in myself and for being my go-to chapter leader for best practices, especially when it came to chapter structure. To Chris Thai, for reading this document even more times than I did and for being the most enthusiastic and willing copy editor I could ask for. And to Derek Chung, for starting this work.

Special thanks goes out to the outstanding ESW chapters that were interviewed for this guide, including Troy Salvatore and Naomi Anderson from University of Pittsburgh, Kimberly Nguyen from UCSD, and Nick Phillips from UT Austin. I am also thankful for Dr. Tony Kerzmann of Robert Morris for providing me with a fantastic interview.

And to everyone on the ESW Leadership Team that answered my midnight Slack messages and my multitude of emails. Berlyn Hubler, thank you for all your illustration expertise. You put up with way too many emails from me. I also am appreciative towards Karen Kaminsky for always being prompt with my strange requests. And to the Projects and Education Department for the team effort in editing this guide.

And thanks to you, reader, for viewing this document.

ESW HEADQUARTERS

Chapter Leader Guide

Published October 2015

About This Document

Running a chapter (or just starting one) can seem like a daunting task. We're here to help. This document was put together to answer all the basic questions about ESW chapters, and a few of the advanced ones as well. It's a living document and needs updating occasionally, both to fix broken links or out-of-date materials and to add new knowledge on what works best. We hope you find it valuable—and we'd like to know what you think either way.

A message from the author

What else is there to say? I am all out of words. Everything I have to say about leadership, management, and ESW has been said here in this document. But since these sorts of things always have messages from the author, I suppose I can squeeze a few more words out.

I started out as a President of my ESW chapter at Smith College. I mean that quite literally. I became President my second semester at college. This was both good and bad. Good for my personal development. Bad for the transition of ESW-Smith. By being thrust into a leadership position so early on in my career, I learned the hard way and I learned quickly. There was no time for mistakes, I had big dreams for my chapter and dammit I was going to make it happen.

I may have not gotten to every project, every event, every weird idea I had, but I did get something even better. I got this guide. My year and a half of running my ESW chapter was the best crash course in leadership private college tuition could afford.

And now I get to share that knowledge with you all. It is a privilege to finally synthesize and communicate not only my best practices, but the best practices from the other chapter leaders I have talked with over the past two years during my time working with ESW-Headquarters. I hope that by reading this guide you begin to think more critically about leadership and management within your chapter. I hope this saves you from the anxiety and frustration I faced as a chapter leader.

Lastly, I hope you learn that everything,--that one project that seems like it will never get finished, that grant you are worried about--will be okay.

All my best,
Brittany Bennett
Education Coordinator

Table of Contents

Part 4: Extras

Part 1: Chapter Basics

1.0 Hello World

Chapter Basics

1.1 What We Do and Who We Are

1.2 Our Values

1.3 Three Pillars of ESW

1.4 Meet our Chapters

1.1 Who We Are and What We Do

Engineers for a Sustainable World (ESW) is a non-profit network dedicated to creating solutions to local and global sustainability challenges. Established in 2002, ESW is comprised of students, university faculty, and professionals who believe that technical fields are vital in building a better world. ESW mobilizes students and faculty members through educational programs, sustainability-oriented design projects, and a shared community. Take a look at who we are, what we do, what we stand for, and quick glance at a few of our chapters and the amazing work that they do!

What is ESW?

Engineers for a Sustainable World (ESW) is building the next generation of engineers and scientists, students and professionals from all disciplines by researching, educating, and building a better world one project at a time. Combining a digital education and training with on-the-ground projects, our 40 chapters, 1,000 members, and 2,000 alumni are constantly innovating and testing new approaches to creating a sustainable global community.

Whether we focus on reducing and upcycling food waste at campus dining halls, demonstrating solar power to grade-school students through a solar-powered smoothie cart, or designing and deploying off-grid disaster response measures in Haiti and New Orleans, our members hone the skills needed in the 21st century to build a sustainable society and economy that respects the planet's limits. In the classroom, we sharpen these skills through courses focused on the systems thinking and creative problem solving necessary to tackle the wicked challenges facing the world today. These local efforts are supported through an ever-expanding online library of skills training, educational content, and community-building tools. And through our conferences and events, we build bridges that will last a lifetime between students and professionals from diverse backgrounds.

What Do We Do?

ESW is an international network that supports our chapters and benefits our members. We do online short courses and support local faculty, and host regional and annual conferences. Chapters get leader training, connections to others doing similar projects, best practice guides, and project grants.

All of this is run primarily by a distributed team of volunteers (the Leadership Team), and supported by dues, donations, corporate sponsors, and conference registrations. We provide opportunities and training so that sustainability becomes part of the education and practice of every current and future engineer. You can read more about these initiatives below, and donate to help these and other programs flourish.

Collegiate and Professional Chapters

Chapters are the heart of ESW - local groups of individuals working on projects, education, and community. We started with collegiate chapters, and our network includes schools of all shapes and sizes. As we graduate more members, we are founding an initial wave of professional chapters to do their own projects, develop multidisciplinary professional communities, and mentor

A Note on Language

ESW-Headquarters (ESW-HQ) is the term we will use to describe the main ESW office.

The Leadership Team (ESW-LT) is the name for the group of people that create and manage the brand, initiatives, resources, and new directions of ESW.

"We" will refer to the perspective of the Leadership Team.

"You" will refer to you, the reader.

1.1 Who We Are and What We Do

students. We support all of our chapters with leadership training and regional volunteers to help solve problems and find ways that ESW can enhance local efforts.

WPSI (the Wicked Problems in Sustainability Initiative)

Sustainability is full of wicked problems - those that lack a clear definition, have no right or wrong answers, and require significant resources every time you try to change the system. Teaching complexity like this is hard for most schools, but critical for the next generation. WPSI combines local project-based courses with adaptable curricula, professional expertise, and a community around a specific problem each year. We invite you to join us and expose students at your school or company to these problems.

Annual and Regional Conferences

There's nothing like getting together in person. Our Annual Conference, now held in April, brings together hundreds of students, faculty, and professionals from around the country for workshops, speakers, and camaraderie around projects, education, and community. Our fall Regional Conferences have the same goals with a tighter community and a more local topical focus. We try out new ways of doing conferences - more than just panels and keynotes - to find the best ways of sharing and learning information, whether it's leadership skills or how to design a solar array.

Short Courses

Adding 'sustainable' to engineering means both new design methods like life-cycle assessment or passive solar architecture, but also exposure to a wide set of topics, such as ecological economics and energy policy. Access to this material should be available to students and professionals regardless of location or local institutions. Since 2014, ESW has offered a series of digital short courses to provide opportunities to learn and engage with new ideas with an eye towards application. Designed to be 4-6 weeks long, digital, and as interactive as possible, they're big enough to have many viewpoints, but small enough for discussion and participant-driven topics.

Mission & Vision

Our vision and mission guide what we do as an organization. Our vision serves to guide ESW-HQ and all ESW chapters, and represents the ultimate end goal.

The **vision** of ESW is:

"A world of environmental, social, and economic prosperity created and sustained by local and global collective action."

Every ESW chapter shares this vision, uniting us under a common goal. Building from the vision statement, ESW-HQ has its unique mission, which lays out the general strategy the organization uses to achieve the vision.

The **mission** of ESW-HQ is:
To forge innovative, lasting solutions to local and global sustainability challenges, we:

- **Design** and implement sustainable projects through our student and professional chapters.
- **Educate** and train individuals and organizations on sustainable policies and practices.
- **Build** a global network of communities with a culture of sustainability.

Though this is the overarching mission, every chapter has the freedom to develop its own personalized mission statement. Some chapters focus solely on improving the sustainability of their local community, others tend to have a more international focus, and still others tend towards educational outreach and skills development. We encourage you to think carefully about your mission statement and discuss it with both your faculty adviser and local officers.

What really sets ESW apart from other engineering or sustainability organizations is our values. From our definition of sustainability to our views in professionalism, ESW is unique in our approach to handling student chapters. Most importantly, we believe everyone, from the first year engineering student to the English major, can and should be involved in building a more sustainable world.

1.2 Our Values

Social, environmental, and economic sustainability are all necessary.

A sustainable world has to have a robust ecosystem, a lasting and equitable society, and a stable economy. Though our work often focuses on addressing environmental issues, we recognize these other elements as equally important.

Anyone can join and contribute meaningfully.

We recognize the importance of a diversity of skills, backgrounds, and perspectives in addressing complex issues, and actively encourage participation.

We collaborate rather than compete.

While competition is an important element of a sustainable economy, we're concerned with solving problems, not with making a profit. We know the challenges we face are beyond the scope of engineers alone to address, and so we seek to share our knowledge and collaborate with others, in order to more effectively develop lasting solutions that work for everyone involved.

We are pragmatic optimists.

Pragmatism means seeing the world as it is - in context, with complexity, and often not in very good shape. Optimism is a belief that that things can improve. Both are essential for finding effective steps forward.

Implementation and education are equally important for long-term change.

Education is important in understanding environmental issues and training future engineers, but implementation of appropriate solutions is also required to ensure a visible, lasting impact.

Innovation doesn't always mean new technologies.

Appropriate solutions don't always require innovation, but when they do, that can include both technical innovation and innovative implementation of traditional methods and technologies. We build off of what others have done to avoid reinventing the wheel.

It's worth doing the right thing. It's also worth doing things right.

We are ethical and diligent in our work. We develop data-driven solutions to real problems and invest the time and effort to provide quality results, and then we learn from both failures and successes to drive future improvements.

Suits and stiffness are not requirements for professionalism.

Sometimes we need to laugh. Sometimes short sleeves and sneakers make more sense than suits (say, when building gardens). Our ability to be professionals while making a better world isn't compromised by including students or having.

In short, we believe in a holistic, welcoming version of sustainability and engineering.

When we say anyone can join, we really do mean anyone! We welcome students from non-engineering backgrounds, different walks of life, and all manners of diversity. We hope you reflect this openness in your chapters.

Photo credit: UT-Austin

1.3 Three Pillars of ESW

PROJECTS

EDUCATION

COMMUNITY

ESW draws students who want to "do things," so the bulk of member participation typically lies in projects. Chapters usually develop a team for each specific project, led by a project manager. Projects could be as short as a month, or last for several years —see Chapter 7 for more details. In addition to implementing change through projects, ESW is committed to educating the next generation of technical professionals to be aware and dedicated to sustainability.

Chapters educate their membership and community by hosting lectures, showing documentaries, and getting involved in education outreach programs with local schools, while ESW-HQ provides webinars and conference workshops for professional and design skills development. This educational component is a key piece that separates ESW from other engineering service-learning organizations.

Beyond projects and education, we believe that a sustainable world requires a strong community—this is where the fun aspect comes into play. Not only does your chapter serve as a community, but ESW serves as a national network of like-minded people passionate about sustainability. Fun can be educational—a field trip to a wind farm—but it can also just be spending time with other ESW members—like running a race as an ESW team. If you are starting a chapter from scratch or working to revive a struggling chapter, remember the three building blocks of ESW: projects, education, community.

At a glance

50+
Chapters

WPSI
wicked problems in sustainability
initiative

Design

and implement sustainable projects through our student and professional chapters.

Workshops

1250+
Members

Educate

and train individuals and organizations on sustainable policies and practices.

Build

a global network of communities with a shared culture of sustainability.

Short Courses

ESW University

Illinois Institute of Technology

From an empty lot on the campus of the Illinois Institute of Technology (IIT) sprang an idea that would materialize to become a multidisciplinary project involving various partners across the university. This was a groundbreaking project for our ESW-IIT chapter! The UFarmIIT project began with a suggestion from a civil engineering professor to turn some vacant space on campus into a productive space for the community. With the help of a first-year architecture design class, students in the ESW-IIT chapter worked with the Office of Campus Energy and Sustainability to create an urban garden on campus.

The initial goals of the project, developed by an architecture student, were to create a few raised planter beds for student volunteers to grow produce for themselves. The ESW-IIT chapter aided in the project by designing and building raised beds, a hoop house, and a composting facility. The project has since grown to stand on its own as an integral part of the curriculum as well as an independent student organization at IIT.

The space is used by the Inter-professional Projects Program (IPRO) at IIT, a series of courses that trains teams of students from various academic disciplines to address complex problems. The teams work together to develop and complete a project related to service learning, sustainability, and entrepreneurship within a semester and then display their work during IPRO day on campus. The "Urban Agriculture Innovation" course uses this space to look at problems within the local food system and increase the productivity of urban agriculture in the surrounding Chicago area.

Since the class began in 2012, the farm has grown to incorporate more departments in their research goals. The space now holds electronic monitoring stations that collect baseline data, such as temperature and water consumption, to increase the research viability of the site. Future plans for the site include incorporating aquaponics and a bee habitat as well as developing a research center.
Although the site now operates independently of the ESW-IIT chapter, the group is looking to develop a plan to sell the produce from the site to increase community engagement and create fundraising opportunities. ESW-IIT is continuing to explore the ideas of sustainable agriculture in its urban setting with their new urban farming project looking at blue/green algae as a food supplement. This project is still in the design development phase with a small scale operation in an aquarium, but the project group hopes to develop a full scale model as soon as possible.

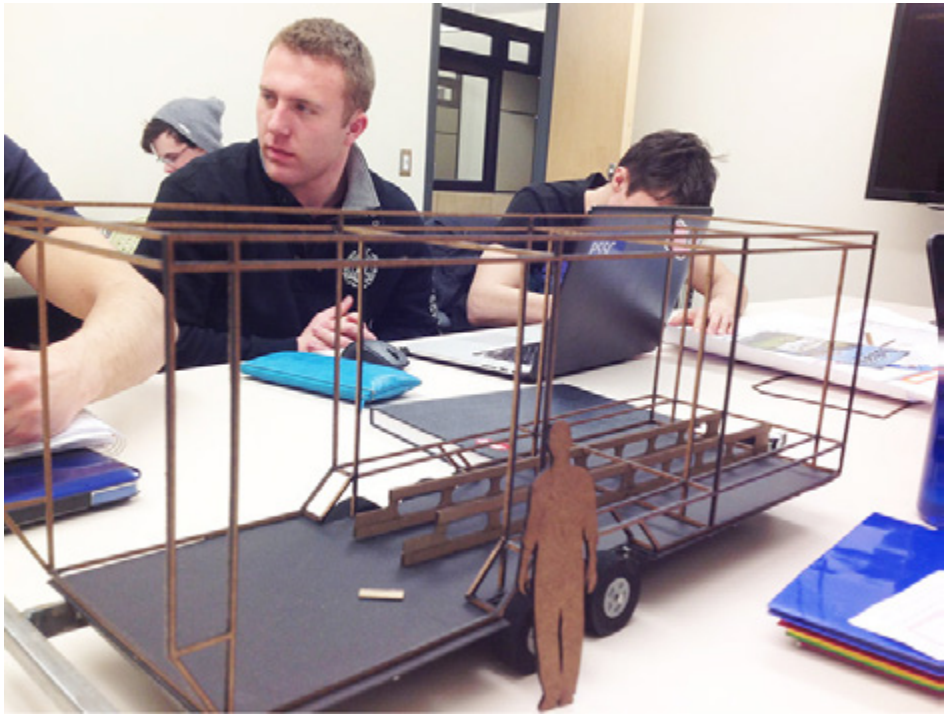
Penn State University

ESW's Penn State University (PSU) chapter has been working for months on Apparatus X, a multi-purpose living space they hope will make a huge impact in disaster-stricken areas. The idea sprang from an architect student at PSU after he visited New Orleans to do research on architecture in slum areas. He set out to design a disaster relief vehicle that would provide medium and long term shelter to those in need.

The Apparatus X Project is currently in the final stages of its design phases, and project members are hoping to finish the construction phase by the end of the 2015 academic school year. The design is based off of an old stripped-down RV. The disaster relief vehicle will be 24 feet long with seven solar panels and a solar heater on the roof. It will be an adaptable tool trailer, a mobile design studio, and a micro living unit.

Creating a living space from bare bones is expensive - the total project budget is about $25,000. Some of this funding came from corporate sponsors, including IBM's Students for a Smarter Planet. Initially, the project team struggled with fundraising using more traditional methods, so they turned to crowdfunding. After opening an account on Indiegogo, the donations came pouring in – over $17,000 of the Apparatus X budget came from individual donors in 16 states and 3 countries. The project was also featured on MSNBC and in multiple magazines (including Wired).

It has not always been an easy ride for Apparatus X. It took the project team about two months to get approval from PSU to build the unit on campus. This project also requires a lot of dedication from the students working to complete it, which can be a struggle for students who are working on ESW projects as an extracurricular. ESW-PSU solved this problem by creating a 4-credit class to work on Apparatus X, alleviating some of the time constraints. Since Apparatus X was the vision of one student, the project team had to have constant communication with him to make sure they were aligned with his plan. This was sometimes a struggle – many new ideas were being thrown around. Despite all these difficulties, the project team hopes to complete the project by May 2015.



Once the students complete construction on Apparatus X, they plan to take it to New Orleans. While some may think New Orleans has been completely restored since Hurricane Katrina, there is still a lot of work that needs to be done. The goal of Apparatus X is to help rebuild the community in the area that is still damaged, and the project team is proud of the work they've done to achieve this goal, from understanding the realistic problem of post-disaster housing, designing a creative solution, and beginning to implement the product where it is needed most.

Univeristy of Texas at Austin

Last spring, the University of Texas at Austin's Engineers for a Sustainable World chapter (ESW-UT) hosted an annual design competition on their campus. The competition, the Alternative Energy Challenge (AEC), encouraged students to design and implement new ideas to generate renewable and sustainable energy. Despite some challenges with fundraising and student interest, the ESW-UT students successfully hosted the event and are planning how to improve the challenge for next year.

The Alternative Energy Challenge was initially aimed at teams of 2-4 undergraduate students in the engineering program. Each team submitted a proposal in the first half of the semester, and ESW-UT provided the top three teams $300 each to create prototypes of their designs. Later in the semester, the teams presented their designs to a judging panel of graduate students, faculty members, and industry representatives, and the winning team received a $1000 grand prize.

The winning design for the 2014 Alternative Energy Challenge was the Hum, or Humble Umbrella, a patio umbrella which could be used at restaurants. This device tried to solve the problem of intermittency between solar and wind power by combining both forms of energy. The umbrella had flexible solar panels that could charge phones during the day while providing shade. At night, the folded-up umbrella acted as a vertical wind turbine, recharging the umbrella's battery power.

The Alternative Energy Challenge was previously hosted by UT's Student Engineering Council, but the competition died out a few years ago. ESW-UT decided to revive the project in an effort to promote sustainability on campus, but the team faced a few challenges with the revival. They initially faced some trouble with raising the prize money; however, they were able to secure funding from IBM's Student for a Smarter Planet and the UT Student Engineering Council. A more pressing issue was the initial lack of interest from the student body —ESW-UT ended up broadening the challenge to the entire campus, instead of just engineers.

ESW-UT is already looking forward to hosting the challenge for the next two years. They have secured funding from the UT Green Fee, a university fund for environmental service projects on campus. They are also interested in helping products developed in the competition grow past the prototyping stage, ensuring that novel ideas for generating renewable energy turn into devices that help power their community.

2.0 Starting a Chapter

Creating a New ESW Chapter

2.1 Registering a New Chapter

Starting an ESW chapter at your college or university provides you with leadership experience,v the ability to apply for national **funding opportunities**, project advice, a recognized identity, and a network of 1,000+ technical individuals who are committed to global sustainability. Initiating an ESW chapter will benefit you and your community, and will engage your peers in a powerful global initiative to build a better world.

To start a new chapter, follow these six steps below. We will elaborate on how you can accomplish each of these six steps in the rest of this chapter. If you are starting a new chapter it is best to familiarize yourself with these steps. It may seem like a lot, but your New Chapter Coordinator from ESW Headquarters will help you through every step.

1. Fill out the chapter inquiry form. **The form can be found here**. Submitting this inquiry will alert us of your interest in starting a chapter. A New Chapter Development Coordinator will respond to your inquiry and work with you at every step of the process.

2.Recruit your friends. We require at least 10 initial members, preferably with a spread in seniority, before we can approve your request to start a new chapter. You can find members by having an initial interest meeting, asking faculty members to help promote the idea, and/or making announcements in classes or at local events.

3. Find a faculty adviser. Often a school will require a faculty adviser for student organizations, but even if you are not locally mandated, we want to have a faculty contact. Faculty are around longer than students, and can provide institutional memory for both you and ESW-HQ. Further, they can be a great help in dealing with internal bureaucracy or a source of project expertise.

4. Determine a way to pay chapter dues. Some schools have a system to cover the dues of student organizations. If your school is not one of these, your engineering department may be able to cover the dues. A final option is to fundraise the money, or have local dues for members that are active on project teams. You should discuss chapter dues payment with the New Chapter Development Coordinator.

5. Brainstorm and identify potential projects. We want you to hit the ground running with a few potential project ideas. We encourage you to meet with various faculty members to determine suitable projects for your campus and community. You can also talk with existing chapters through our various social networks to get ideas to replicate or adapt locally. Starting small and finishing something is worth much more for chapter longevity than immediately jumping to big dreams that stall.

6. Fill out the New Chapter Application. This application is the final step in becoming an official ESW chapter, and should be sent in with initial chapter dues. If you have any questions, you should discuss them with the New Chapter Development Coordinator.

Chapter Resource Kit

DOWNLOAD HERE

2.2 Getting Organized

There a few organizational tasks you should take care of in order to start off strong. It is suggested you go ahead and get these small tasks out of the way before you start recruitment efforts. Following these steps will lay out a strong foundation for your chapter so you can hit the ground running.

Set up a chapter email account. Working from your personal email is fine for informal discussions, but you will want to set up a central email account that can be accessed by the necessary officers in your chapter. An org email account also acts as an archive for future leaders and a consistent point of contact for people outside ESW. We highly recommend using Gmail, as a Google Account has plenty of useful apps for your chapter. All hail the Google overlords.

ESW-Northwestern's website, designed by Brian Lange.

Determine a method for documenting work. Where are your agendas, receipts, CAD files, budgets, notes, etc. going to go? Do your future leaders a favor by setting up an online account to store important files. Google Drive is great for collaborating with both your officers and your general body members and Dropbox is a trusted service for storing large files (good for design projects).

Establish your social media accounts. If you plan on advertising your events via Facebook, Twitter, or any other social media platform, go ahead and set up those accounts under the chapter's email account. Fill out your profiles, set your tag lines, and upload a picture or two so that these sites are ready to be run by whichever officer that takes on that responsibility.

Create a website. While maybe not something you need to do immediately, setting up a website quickly will aid you in recruiting new members and establishing yourselves on campus (see Chapter 5). It does not have to be fancy, and there are plenty of free platforms you can use to create one painlessly (Wordpress, Blogspot, Wix, Weebly). Check with your school to see if they can set one up for you. A chapter is not required to have a website to be a part of ESW. If you don't want to or can't create a website locally, ESW National is happy to help you build out a basic page on our national site that you will have total control over. If a chapter does have a local website the following rules must be followed:

- It must use an appropriate ESW logo and color scheme (for more information, please consult the **ESW Branding Guidelines**)
- It must have correct URL links to the ESW National website (**www.eswusa.org**).
- If applicable, it must reference the correct ESW mission and vision statement, which can be found at **Mission & Vision**.

Branding Guidelines

DOWNLOAD HERE

2.3 Building Momentum
Recruiting Your First Members

We have written a whole chapter about recruiting new members, which you can check out in Chapter 4 (it is okay to skip ahead! we promise!). To kickstart your recruitment process and land those first few key members and officers, take a look at the following tips.

Start with your friends. You probably know some nerds passionate about the environment, so it only makes sense to reach out to them first. It is totally reasonable to start your chapter with a core group of friends.

Reach out to the department. Your professors, faculty, and offices are all there to support you and your endeavors, so utilize them! Teach out to the heads of engineering departments and sustainability offices and ask if they can help you advertise your first meeting or populate your list serv.

Spam those list-servs. Students receive a lot of emails, but that should not deter you from sending out emails to any and all sustainability and engineering list-servs you can get your hands on. Your email should describe what is ESW, get people excited about the possibilities of working with ESW, and provide the details for your first meeting. An example of such an email is located here.

Shout out. Nothing is quite as effective as putting a face to a movement. Ask your professors if you can pop into the beginning of class for two minutes to give an ESW elevator pitch. This works best at the beginning of the year when classes have not picked up.

Pitch it! Win over new members by nailing down your ESW pitch. A well rehearsed pitch will make you look like a pro at tabling events, classroom visits, and even via emails. See the sidebar for details on how to pitch ESW.

Pitching 101.

If you have ever been to a recruitment fair, you have likely had to "pitch" yourself. Pitching involves rattling off a 30 second to one minute spiel in an effort to sell *something*. In our case, we are trying to "sell" ESW to new members. When pitching ESW to new members, here are the main points to hit:

Projects
Gets hands on experience building and/or designing projects that you choose.

Network
Make lifelong friends that share your interests.

Leadership Experience
Improve your soft skills by organizing meetings/projects, speaking to larger groups, and coordinating work through email etc.

Community
Get to know people in your community and give back in meaningful ways.

2.4 Kicking it Off

Your first general body meeting (GBM) marks the end of the messy, amorphous forming stage of starting a chapter. Think of it as your campus debut. There are a million ways to do an intro GBM, but here we present a great base example. Just like this example, a good intro GBM will garner excitement among students, boost your members, and initiate a project or two.

Kicking Off Projects

When ESW-Berkeley re-started their chapter in 2014, they used their first meeting to kick off a bunch of new projects and identify project leaders. The meeting centered on project ideation, which is a hands-on, interactive meeting that gets people excited about the possibilities of working with ESW.

Here is how it works. First, spend about five minutes introducing ESW. Break attendees into small groups of 4-6 people and assign them a category of either water, energy, food, transportation, etc. Supply them with a huge stack of sticky notes. Task them with generating as many ideas as possible, with quantity over quality, of ways to improve your campus and community around their given category. You can have the brainstorm go many different directions from here, but one way is to ask each team to focus on one of their ideas and refine it. Let every group present their idea to the large audience. Collect all the ideas at the end and then let attendees vote on which projects they would like to work on for the year!

Following ESW-Berkeley's example, meeting attendees were grouped around categories such as energy efficiency, renewable energy, and water conservation. Each group was able to brainstorm projects and create multiple projects under each category.

Ice Breakers

Throw in an icebreaker at the beginning to get people chatting. A classic is the Oreo challenge. Ask people to pair up and place one half of an Oreo on their forehead. The first person to get to Oreo into their mouth without using their hands wins!

Sample Agenda

If you are new to planning kickoff meetings, here is a sample agenda to get you started. This agenda was developed for a 20 person meeting where projects have been decided, but project teams had not.

Introduce yourself. Before you start talking about ESW or the meeting, let people know who you are! Do not forget to mention your position on ESW's board. It also does not hurt to give a little background about yourself and why you love working with ESW.

Quick overview of ESW. A lot of new members at the beginning of the year show up because they like the idea of the name of the org, but they do not always know what that org does. Provide everyone in the room information about ESW, starting with ESW-HQ and our nationwide initiatives and ending with what your local chapter does.

Ice breaker. After you have talked for a bit, break it up with an interactive icebreaker. Lots of people hate icebreakers, so lead the way by being enthusiastic about it.

Present plans for the year. Settle everyone back down and present your plans for the year. This should include any major events and all your projects.

Form project teams. Go through all the projects, explaining their timelines and major deliverables. After going through all the projects, have people physically move to different tables to form project teams. Some people may want to join more than one project. You may want to limit participation to one project or you can find a way to let them join multiple teams.

Determine project meeting time. Collect everyone's availability and determine a time in which the project team can meet on either a weekly or bi-weekly basis. If there is time, you can start determining next steps or pulling together a Gantt Chart or timeline of tasks!

2.6 Faculty Advisers

Having a Faculty Adviser is a fantastic and downright necessary individual to have on your ESW team. Your Faculty Adviser exists to support you and your endeavors to grow and establish ESW on your campus. They can provide knowledge of resources within university, offer advice to your chapter, and represent the chapter's interests to the engineering department.

Finding the right Faculty Adviser can be difficult. Plenty of professors are too busy to take on the commitment, while others may not seem to have a passion for sustainability. Ideally, your Faculty adviser should be passionate about the mission and vision of ESW and have enough time to meet with your chapter once a month.

To find the right Faculty Adviser for your chapter, you can start by searching through your faculty's research to see who has an interest in sustainability.

Once you have a decent pool of professors to chose from, set up meetings to discuss the role of the Faculty Adviser to see if they would be a good fit. If you run into any issues, reach out to ESW at networks@eswusa.org. Once an advisor has been selected, get them to register as a member of ESW.

Interview with

Dr. Tony Kerzmann

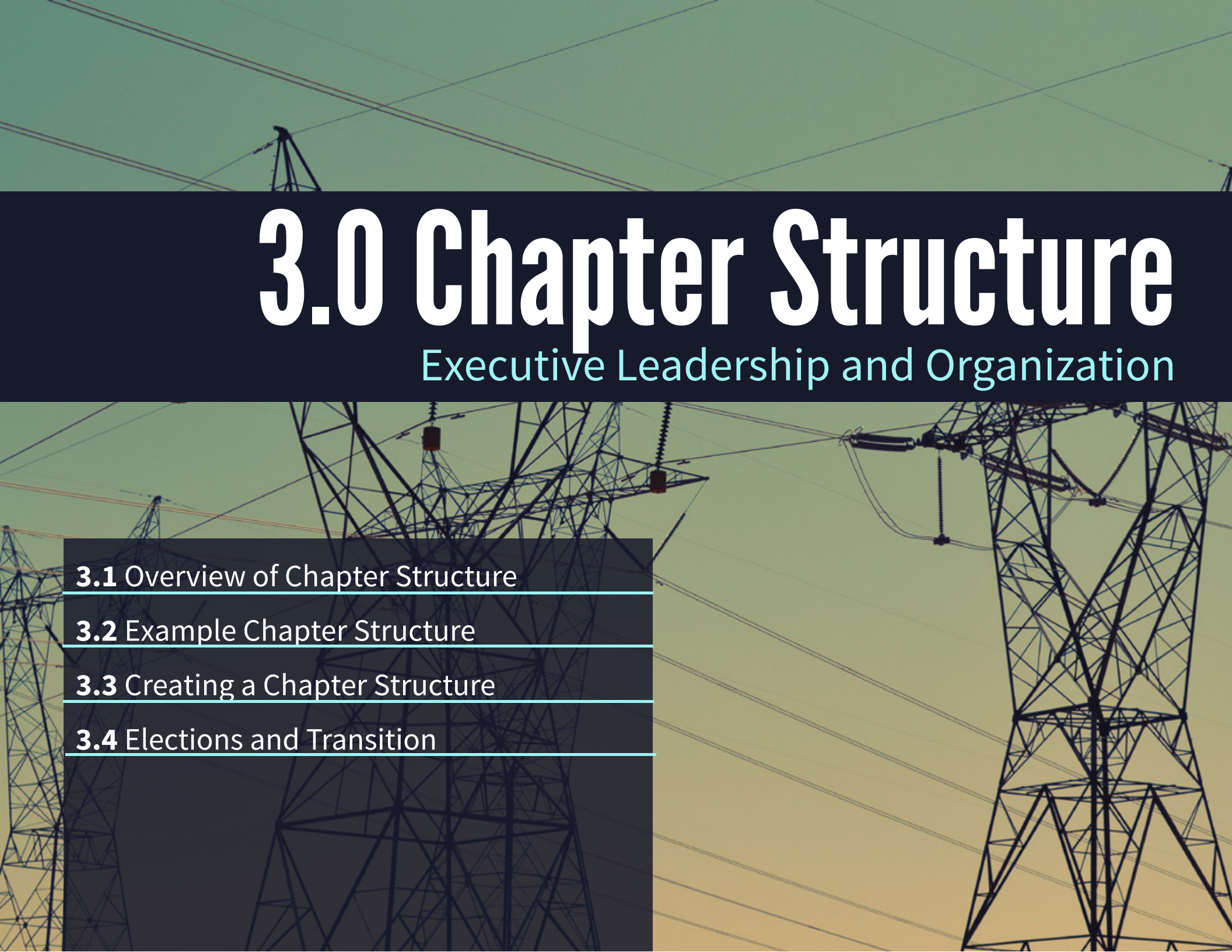
Q. When did you become the adviser for your chapter?
A. We started the RMU chapter in the Fall of 2013 and I have been the advisor ever since.

Q. What do you like most about working with your ESW chapter?
A. First and foremost, I really believe in what ESW does! I enjoy the flexibility to work on engineering-related projects that are meant to do good locally, nationally or even internationally. I love the altruistic approach to engineering! Engineers should be Doers and not just Thinkers. ESW provides a great platform to Do things that are meaningful and not just talk about things.

" I really believe in what ESW does... I love the altruistic approach to engineering!"

Q. What are you most proud of when it comes to your chapter?
A. I think the thing that our chapter is most proud of is our persistence over the last couple of years to increase on-campus recycling. We have donated blue recycling bins to the RMU campus, created and posted educational recycling signage, and worked with facilities to increase recycling efforts.

The efforts of ESW has led the University to create a recycling and sustainability committee of which I too am a member. This committee rolled out its new recycling campaign this Fall semester which includes recycle bins all over campus and in all the dorms except for one.



3.0 Chapter Structure

Executive Leadership and Organization

3.1 Overview of Chapter Structure

3.2 Example Chapter Structure

3.3 Creating a Chapter Structure

3.4 Elections and Transition

3.1 Overview of Chapter Structure

We understand that different methods work for different schools, so ESW chapters have the independence to structure their chapter as they see fit. When we use the term “chapter structure,” what we are really talking about are the executive officers and project teams. Good structure should improve communication, have enough redundancy that any member can step back for a week in the face of class work or personal crisis, and enable the chapter to accomplish as much as possible with available resources.

This chapter gives some example structures that have worked for other chapters and discusses how you can create a chapter structure best suited for your chapter. Your chapter structure should be finalized in your constitution, which we discuss at the end of this chapter.

Unlike many other pieces of this guide, chapter structure isn’t as easy to change, so it’s harder to experiment with. Spend some time openly discussing what works and what doesn’t with your officers before making any serious changes, and plan to stick with them for a year if possible.

What is Chapter Structure?

We are about to get a little theoretical in this chapter. In the previous chapters we have discussed what ESW does and how to start your own chapter. Now we are going to delve into the nitty gritty of setting up your chapter: getting the chapter structure just right.

When we use the term chapter structure, we are referring mainly to the hierarchy of your officer members (or executive officers) and how your organize your meetings.

ESW chapter structure addresses the following questions: how can you squeeze in projects, education, and community into one student organization? ESW is ambitious with its mission, but its possible to accomplish everything with the right chapter structure.

Executive Officers

ESW-HQ does not dictate positions apart from requiring that each chapter have a President and a Faculty Adviser. Apart from this, you are free to figure out what positions are best for your chapter!
In this rest of this section we will talk about how you group your executive officers into a hierarchy. For small chapters, there is not much of a hierarchy at all. But as your chapter grows in membership, so too will the bureaucracy.

Meetings

There are a lot of different type of meetings that can happen in an ESW chapter. Project meetings, board meetings, general body meetings, and the sporadic event. Juggling all of these can get confusing, especially for your members.

In the next section we will take a look at examples of chapter structure. These examples were chosen for a reason--they work. So take a look. Use the parts you like and leave the parts you do not like. Build your chapter structure off the success of others, but make it your own.

3.2 Example Chapter Structures

Small Chapter

Smith College

This example comes from ESW-Smith College, a liberal arts college with a small ESW membership base. The chapter structure here mimics the school: small.

Executive Officers

The Executive Board consists of the President, Treasurer, Secretary, Publicity Chair, Project Manager, and Workshop Coordinator. The general responsibilities of each officer are presented below.

President: Acts as the figurehead for the chapter, seeks new projects, maintains communication with the Leadership Team.

Treasurer: Creates budgets, manages finances, seeks grant opportunities.

Secretary: Takes notes at meetings, photographs events, manages the Google Drive.

Publicity Chair: Advertises events and meetings, manages online presence.

Project Manager: Leads a project team.

Workshop Coordinator: Develops and facilitates technical educational workshops.

Member Involvement

A member of ESW-Smith has three ways to be involved: projects (large time commitment), workshops and events (small time commitment), and Round Table discussions (small time commitment). The table on this page presents an overview of the various meetings that make up ESW-Smith.

Meeting	*Frequency*	*Facilitator*	*Notes*
Board	Weekly	President	Used to check in with officers and delegate tasks
Projects	Weekly	Project Manager	Meets for one hour, members can have anywhere between 2-3 hours of work for the week
Round Tables	Every 2 weeks	President	Occurred during lunch to accommodate student schedules
Workshops & Events	Once or Twice a semester	Publicity chair or Workshops Coordinator	Events include guest lectures, tabling during Earth Week, and even a dance performance

The breakdown of ESW-Smith's meetings and events.

Round Table Events

ESW-Smith's Round Table discussion was developed as a substitute for "normal" General Body Meetings. Board members rotated the responsibility of choosing a topic, conducting research, creating a short 5-10 minute PowerPoint presentation, and facilitating a 20 minute discussion. Topic examples include: Introduction to Wind Energy, Social Justice and Engineering, and Hydroponics 101.

Why This Works

ESW-Smith is a small chapter, with membership hovering around ten students. With such an insular community, there is no need for hierarchy. Board members are often the students working on projects as well. Positions are created based on interest--if a student is interested, ESW-Smith creates the position!

Medium Chapters

ESW Berkeley

Berkeley is a medium sized public university with a large engineering school. ESW-Berkeley has roughly 30-40 student members.

Executive Officers

The executive officer board encompass six positions.

President. The President serves as the primary contact of the organization, and is responsible for leading meetings, and planning for the future of the chapter.

Vice President of Project Management. Responsible for assisting and managing all projects, ensuring their successful development and completion.

Vice President of Finance. The VP of Finance is responsible for managing the organization's funding, including assisting Project Leaders with project-specific fundraising an management.

Vice President of Community

3.2 Example Chapter Structures

Affairs. The VP of Community Affairs is responsible for building ESW-Berkeley's community through organizing events and activities.

Vice President of Public Relations. The VP of Public Relations is responsible for building and maintaining relationships between ESW-Berkeley and other individuals, organizations, and communities.

Vice President of Educational Development. The VP of Educational Development is responsible for designing and implementing educational programs for ESW's members and the larger community.

Projects

Projects are handled just like ESW-UCSD, with a single dedicated project leader and up to six members on each project team. Project teams meet weekly.

ESW-Berkeley is experimenting with a new way of handling project management. The Vice President and the VP of Project Management meet one on one with project leaders on the weeks that project teams do not meet. These meetings are for quick check-ins and dedicated mentoring.

Meetings

Vice Presidents are able to form their own committees. These committees meet weekly. The VP of Public Relations has a conference committee, as ESW-Berkeley was planning the 2016 ESW Annual Conference. The VP of Community Affairs leads an event planning committee for social events and general body meetings.

ESW-Berkeley is also toying with the idea of adding assistant VPs to take on some responsibilities. For example, the VP of Community Affairs may request an assistant VP to write a newsletter.

All executive officers meet weekly. projects, officers meet weekly committees meet weekly, or every other week

Don't Forget to Be Social!

General body meetings (GBMs) are held about once a month. The GBMs are a time for chapter updates, a guest speaker in a sustainability field, and free pizza!

Social events also occur every four weeks. These events consist of a potluck, a trip to a restaurant, adventuring to San Francisco, hiking, or just hanging out together.

Overall, the meetings structure looks like this: General body meeting, a week off, a social, a week off, then repeat.

Why This Works

With so many members, ESW-Berkeley needs a lot of structure. The chapter is ambitious, so it makes sense that there are a lot of meetings and events to juggle. The executive officers, especially the VP of Project Management, have a lot of meetings to attend. But this ensures that communications streams are open and that people are on task. The committee structure allows for ESW-Berkeley to incorporate things besides projects, like educational initiatives, into their semester plans.

Large Chapter
University California of San Diego

ESW-UCSD is the largest chapter we will look at. UCSD is a large public research university with more than 30,000 enrolled students. With a large pool to recruit from, ESW-UCSD has had membership as high as 60 students.

Executive Officers

ESW-UCSD is split into two main boards: an Executive Cabinet and a Board of Project Directors. The Executive Cabinet, headed by the President, consists of VPs covers the main functions of a board: finances, community affairs, public relations, and information management. A fifth VP, the VP of Project Management, oversees the Board of Project Directors. Three elected Project Directors oversee multiple projects in a specific theme—in this case the themes are Solar, Water & Energy, and Tiny House (a multi-faceted project). Each Director is responsible for managing the project leader of each individual project team under them.

3.2 Example Chapter Structures

Let's examine the roles of the executive officers closer.

President: The public figurehead of the organization, oversees the Executive Cabinet, maintains communication with the Leadership Team.

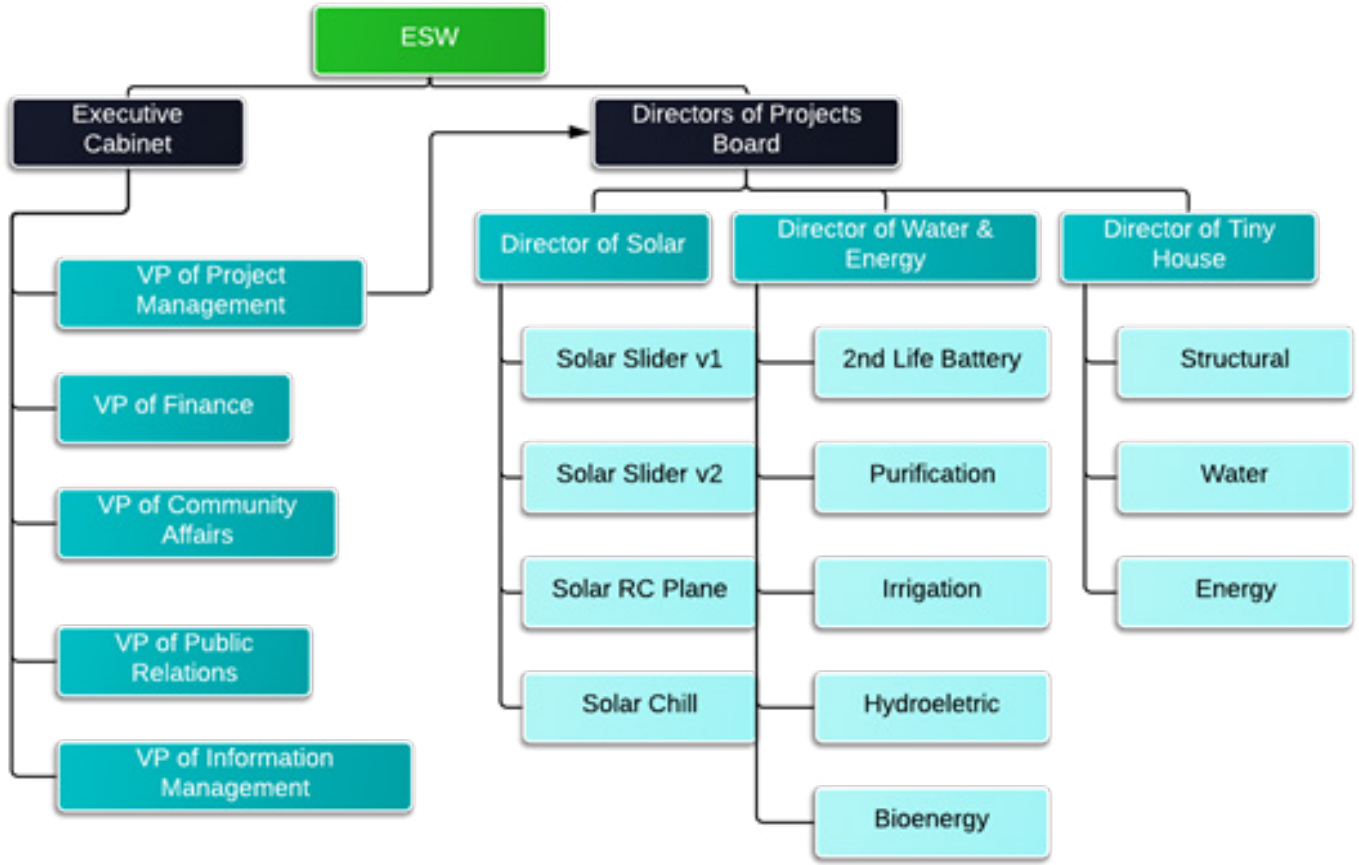
VP of Project Management: Acts as the link between the Board of Project Directors and the Executive Cabinet, manages the Project Directors.

VP of Finance: Creates budgets, manages finances, and organizes fundraising efforts.

VP of Community Affairs: Manages the community and social aspect of the chapter, plans an annual banquet.

VP of Public Relations: Advertises events and meetings, manages educational outreach, communicates with other campus organizations.

VP of Information Management: Organizes and document all work, creates legacy documents.



The hierarchy of ESW-UCSD's exectuive board

Why This Works

With the introduction of even more members, ESW-UCSD needed to add more hierarchy to their executive board. Separating projects from the rest of the executive board and dedicating a lot of people to the Directors of Projects Board ensured that projects were still the main focus of ESW. The Executive Cabinet is able to perform all the leadership, managerial, and administrative tasks associated with running an ESW chapter.

The Directors of Projects Board is large, so communication with the VP of Project Management is absolutely necessary in a structure like this.

3.3 Creating a Chapter Structure

The examples above work for those chapters, but reality dictates that you will probably need to tweak those structures to fit your needs. Creating your own chapter structure is difficult, but it is worth it in the end!

Meeting About Chapter Structure

Call together a few key officers. You don't need all your officers to be involved. In fact, you avoid a lot of arguments if you keep the process between 2-4 main people. We have found that the President, the VP, and the Secretary (or the equivalent) make a good group of people for figuring this stuff out.

Plan to be in it for the long haul. As stated above, this stuff ain't easy. We know that many chapters have spent many hours laboring over their constitutions. Many chapters report that school Breaks are the best time to work on chapter structure.

Empty the skeletons in your closet. Be honest with yourselves on what has and has not worked. Ask your group to identify the key problems in the org. Is nobody responsible for increasing membership? Are serving projects & your general members the focus of your officer board meetings?

Creating Officer Positions

Write Your To-Do List. Now you can start thinking about your officer positions. Write out everything that needs to get done in your chapter. Think about what needs to happen for the org to function currently and what some of your long term goals include. If you want to host a realaly cool outreach event, you are going to need someone to plan it! Do not think about organizing this list—just throw out every task that needs to get accomplished in order for your chapter to work.

Group responsibilities into board positions. Once you have a list of responsibilities and tasks you can group like things together.

Once you have grouped together these responsibilities, you have essentially created an officer position. Congrats! Now you can develop an officer position description sheet that details the responsibilities of each officer. These sheets are also helpful with recruiting board members or holding elections.

Planning Meetings

Review your mission and vision. What is is that you are trying to accomplish? Are you mainly concerned with producing awesome projects, or do you want to dedicate ample time to educational outreach? You have to know where you want to go before you can plan your trip.

Start with general body meetings. Start with the basic building blocks of a chapter: general body meetings (GBM). Is your chapter small enough to have project teams meet during GBMs? Do you need to have separate project meetings? Depending on what you decide, find a meeting frequency time that works for you.

Add in pieces. Where do events fall into your structure? How often do project teams need to meet? Hammer this out and you will have yourself a working chapter structure!

Board Responsibilities

- Plans and leads executive board meetings
- Maintains contact with the National Team
- Maintains contact with adviser
- Acts as the representative for outside contacts
- Takes notes at board meetings
- Finds grants, applies to grants
- Manages organization finances
- Oversees fundraising efforts
- Publicizes events
- Designs promotional
- materials
- Develops and plans social events
- Oversees all projects
- Oversees and manages a single project

3.4 Elections & Transition

It is never too early to think about leadership transition and elections. Your chapter structure should include mechanisms for dealing choosing new executive officers. If you are writing a constitution, this is a critical part to include. The section will discuss methods of naming new leaders and how to train them.

Naming New Leaders

Most years, the people running your chapter will change. If you're reading this document, there's a good chance you're currently a leader who will graduate in the not-so-distant future. Transition is all about how to make sure the people coming after you benefit from your experience and inherit something they can build upon.

Whether you elect them, appoint them, or interview them, you need a process for how you name the next generation of chapter leaders. Most schools use elections that are held in the spring term, with a minority electing new leaders in January for a longer transition period. If you're not sure what your chapter's process is, check your constitution. If you're starting from scratch, check with your student government guidelines to see if there are any procedures that you need to follow, and with your Chapter Relations Coordinator for examples from other schools.

If you're holding elections, plan ahead and hold them early rather than late. Try to give the old and new officers at least two months of overlap so that they can talk about duties or even shadow each other for a meeting or two. Elections should be held with recorded ballots for transparency, and ideally with a way for members who aren't present to participate – students who are studying abroad or even on a project trip may very much appreciate an absentee ballot!

Regardless of method, many excellent candidates will not put themselves forward without being asked. Talk to your most promising members and see if they'd be interested in becoming an officer – at least one of them will not have thought about it. Offer to talk about your experiences and time commitment so they understand what they are taking on. Don't forget to reach out to younger members who could be officers for several years in a row, as they may need an extra vote of confidence from you to feel comfortable.

While the President is the head position in almost all chapters, the role is often held by two people (co-presidents). With co-presidents, make sure that duties are clearly designated to one person or the other to avoid failures to respond because you assumed the other person was going to do so. We don't recommend three co-presidents. Sometimes the president is elected a year earlier, serving as a vice-president in some capacity with the understanding that they will take over the following year. Either or both of these situations are more applicable to larger and/or more stable chapters, and can help smooth transitions and ensure capacity in that highest role.

Timeline of Holding Elections

Four weeks out
Meet with your executive officer to determine which positions you need to recruit for. Which officers want to keep their position? Which want to leave the board? Which want to run for a different position?

Three weeks out
Review the open positions and determine if you need to create any new positions. Get all your officer description sheets in order.

Two weeks out
Announce elections and send out officer position sheets for students to review.

Elections
Collect applications and host interviews!

3.4 Elections & Transition

Handing Over the Reins

Handing over positions is not as simple as making an official announcement and then leaving. You should make sure that each officer sits down with their new counterpart to talk about the specific duties, whether there are any key documents that go with the position, and how to deal with unusual situations. If it's possible, have each new officer act in their position for an official event while the old officers are still around for questions – for instance, have the new President run one of the final general body meetings, or the VP of Finance do a supplemental budget request. Experience is worth much more than conversation for many of these topics.

New officers should have access to any chapter email or social media accounts so that those pieces are not lost. A chapter Gmail account is a great place to store the knowledge discussed here: put documents in the account's Drive so that anyone with account access can read them, and share them with a few other people for redundancy. Ideally, these documents include a handbook for the chapter, detailing what procedures and policies have been established (formally or not), who to talk to for help, and where important things like the chapter constitution are located. The knowledge accumulated and retained through documents, conversation, and experience is a key path to a continuously growing chapter, rather than one which reinvents all processes each year.

Planning for the Future

One of the most valuable things that the old and new leaders can do together is plan. The outgoing leaders have a year or more of experience for how things work, and know what they wish they could have done better. The incoming leaders are often full of potential ideas for projects, events, and structural changes. Try to find time to capture these two sides and plan the next year's general path. Ideally, this takes the form of a leadership retreat, with everyone isolating themselves in a group for a pre-planned weekend of review, planning, and socializing. If a full weekend isn't possible, try to at least find a half-day to get everyone in the same room.

Part 2: Leadership & Management

4.0 Creating Teams

Recruiting & Goal Setting

4.1 Strategic Thinking for Recruiting

Whether you are starting out from scratch or looking to expand, this chapter can help you recruit, retain, and work with new members. First you are going to need to recruit some members. We got tips for that. But keeping members interested and engaged is tricky, so we will discuss leadership strategies for retaining members. Finally, once you got a group of ESW members you need to kick off your team with a good goal-setting session, which we will help you plan.

Almost every chapter wishes they had more members. A larger membership base means you can support more projects, build a stronger and more diverse community, and educate more people. Many chapters struggle with recruitment, and for good reasons – it's difficult. This section explores how you can begin strategizing to recruit new students.

What does the freshman in the intro class have in common with the fifth-year senior knee-deep in senior design? Both have a great potential for joining your ESW chapter, but reaching out to them likely requires two radically different approaches. A senior brings more advanced engineering knowledge to the team, but may lack the time commitment. Freshman are usually seeking a community and are more than ready to get involved, but may lack the experience to lead projects.

It can be difficult, especially for smaller chapters, to attract and accommodate every student's interests and schedules. Therefore, you should think critically about who you want to target as members of ESW. Here are some guiding questions:

Do you want to focus solely on engineering majors, or reach out to other STEM majors and/or students outside of the sciences? Smaller schools in particular may want to expand their targeting pool. Even at large schools where engineering majors alone can provide a strong community, reaching further afield can bring in new skills and perspectives.

Are there opportunities for freshmen and sophomores who may have not had much engineering coursework? This could take the form of entry level board positions, working on a budget for a project, or doing educational outreach. Many projects, with the right leadership, can also provide small tasks as a way of getting new team members involved and interested in the topic.

Are there opportunities for people with low time commitments? If your only project time occurs during three hour design sprints, you may be restricting people who want to join ESW but are too busy to dedicate so much time. It is good practice to have a range of meetings and project intensities including social events, lectures, and even projects that simply require less time. A good strategy that chapters of any size can use is to host engineering workshops – an event to learn a skill or do a small project. Recruitment can often become a circular argument: you need more members, more members ensures projects get done, projects will entice students to join. If you are starting off with a small membership base you can get stuck in this rut. This section will discuss advertising strategies you can on campus to recruit members.

Use email list-servs. This is your bread and butter of recruitment. At the beginning of the year it is appropriate to send out emails to the entire engineering department or to green/sustainability oriented list-servs. Advertise beginning of the year interest meetings, large events, and project opportunities through these general lists. It is not advised that you use these lists constantly; however, they are a great starting point for new chapters. Once you have a basic and established member base, save announcements to these lists for big events.

4.2 Advertising on Campus

Chalk around campus. If your campus allows it, chalking is an innovative way of informing students about your meetings. Granted, cold weather and rain can make this difficult, but it can also be a fun activity for your members. Start by chalking the details of your next meeting at popular locations on campus. Some chapters have had "awareness weeks" where they chalk sustainability facts (along with "ESW" written somewhere). It is a great way to improve visibility on campus!

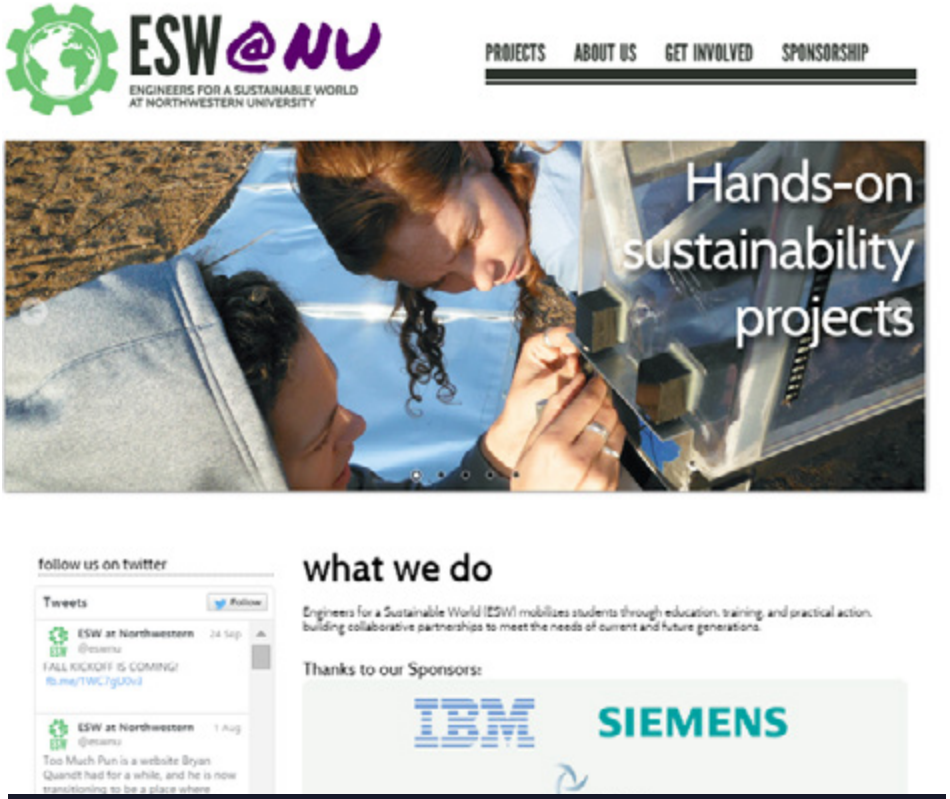
Present in classes at the beginning of the semester. If you ask, some professors are kind enough to give you some time at the beginning or end of their class for you to give a spiel about ESW. Typically you have one shot at this: at the very first class of the semester. It is best to target first year classes, as they will have likely not heard about ESW. Be sure to mention that ESW will provide hands-on engineering experience.

Use social media! Facebook and Twitter are staples of college life, so use them to your advantage. You can kill two birds with one stone here: recruit a first year or sophomore student to be your webmaster, someone who manages all of your ESW social media (make sure to feed them some content to start).

A well managed Facebook Page or Twitter feed can increase visibility, publicize to a wider audience, and easily remind people of meetings. In addition to improving your chapter's visibility, you get someone involved early in their college career – great for creating long-term leaders. If you post to multiple social media sites, link everything back to one page such as your Facebook Page or website.

Remember that ESW-HQ is also active on these networks, so reposting some national news – particularly things like webinars – can be a good source of content as well. Depending upon the culture of your college, you may also want to consider using Tumblr, Reddit, or some other site.

Create a website. If you have a website, anyone who wants to learn more about your chapter can simply Google it. This is especially helpful for prospective and incoming students searching to find out more about way to get involved in college. A website will also serve as a portfolio of all the projects you've completed and events you've hosted. This will come in handy when it comes time to edit your résumé or when you show off your chapter to a first year student.



A Snippet of ESW-NU's website, created by Brian Lange.

ESW-HQ recommends using Weebly or Wix if your college does not offer website hosting. Your website should have all the meeting times and locations for the semester, current project opportunities, and contact information. Watch out for old websites created in previous years, as they can outrank your new page on search results. Delete them if possible.

4.2 Advertising on Campus

Share your passion. One of the most frustrating things a chapter leader can face is a lack of student interest. If you feel like you have tried everything, ask yourself this: what makes you passionate about ESW? Whatever your answer is you should share it with your community so that others feel your passion as well.

Incorporate passion into your spiel when you talk to interested students. Have a meeting to explain why ESW is important to you and how it can be important to others too. Passion is contagious and soon enough you will see more people enter your chapter. In the end, most students won't remember the details of your specific club, so the goal of tabling is to get people to sign onto your email list. Have a clipboard and plenty of pens for students to write their email addresses – or a computer/tablet with a spreadsheet so that you don't have to read handwriting later while inputting addresses.

Create a banner. Investing in a banner that can be used from year to year is great for effective tabling. While you can order a plastic banner online or from a local printer (likely cost: ~$100). Vistaprint can print a banner for relatively cheap.

If you are looking for a more sustainable alternative, hit up your local Goodwill for a sheet or large piece of fabric. Get together with your new ESW members and turn the blank canvas into a beautiful banner. Not only will you have a banner that will last for years, but this is a great bonding activity.

If you are looking to include the gear in your banner or any other piece of advertising materla, just remember, the official ESW gear has eight teeth.

Refer to our **official branding guidelines** for more information.

Tabling 101

What can be better than situating yourself among masses of students who are looking for ways to get involved on campus? Ask board members to sign up for shifts.

When you table, remember to both show and tell. Have a trifold of pictures showing off your recent projects and events. Try to have a demonstration or two like a solar panel hooked up to a voltmeter. Have handouts on your table including something that has your meeting location and time on it.

Practice your pitch for the chapter - what makes you awesome in 1-2 sentences. Be able to talk about new projects that might not have pictures yet. Stand in front of the table and engage people walking by. You can learn more about pitching your chapter in **Section**

And here is a pro-tip. Stand *in front* of your table! You will be surprised at how many more people you engage just by standing with the crowd!

4.3 When Nothing Seems to Work

So you have been recruiting for months, employed every strategy you can think of, and still have yet to see any real growth in your membership base. That is perfectly okat! Recruitment is one of the top struggled for chapter leaders. If you are frustrated with your recruitment efforts, try out on of the following.

Reach out to your Chapter Relations Coordinator. Your coordinator's main responsibility is to help chapters. If you are having any kind of problem, reaching out to your chapter coordinator is a great way to help resolve the issue. Your coordinator can help direct you to more resources, work with you to provide tailored advice, or simply be a person to vent to.

Voice your frustrations to your adviser. Like your coordinator, your adviser can provide advice. Do not be afraid to ask for help, as you will likely learn something new from your adviser. They may be able to help connect you to other faculty members' classes, different email lists, or new groups.

Host a brainstorming meeting with your executive board. If you have been the sole person in charge of recruitment, getting fresh ideas from different perspectives may be just the thing you need. Gather all your officers to objectively and openly discuss your membership and recruitment situation. Refer to the links in the Resources section below for strategies on how to effectively lead a brainstorming meeting.

Wait. Sometimes you have trouble recruiting because you have missed your golden opportunity, the beginning the semester of year. This can be the most frustrating part, but waiting for a new semester to start up really can make all the difference. In the meantime, make sure to take photos of your activities, spruce up your web presence, and have some great tabling materials for the next time around.

Workshops are your friend. Not all students can be part of a project team. Seniors are often swamped with capstone projects and first years often don't have the necessary engineering knowledge. Hosting a one to three hour workshop is the perfect event for widening your target audience while adding skills to your team's metaphorical toolbox. Successful workshops in the past have included making solar powered cell phone chargers, DIY bike repair and maintenance, and educating students on how to talk to climate skeptics. ESW-HQ has project info for many of these workshops, and can help you set them up.

Reach out to new members. Utilize the time before meetings to socialize with new members. While it's tempting to talk to friends you already know, you and your board are the best ambassadors for the org. If you see someone new, go up and get to know them – introduce yourself, give your position on the board, and then ask how they heard about the meeting or what classes they're taking. This small act will have a large influence on students and make them feel more welcome at meetings.

A Note on Paper

You may have noticed that none of the above strategies require paper. Many chapters struggle over whether to use paper to advertise (often in the form of posters or fliers). On the one hand, making posters or paper handouts is a staple of most clubs and organizations, is easy to do, and usually works. On the other hand, it is a lot of material that needs to be recycled and may not be necessary.

ESW-HQ encourages you to think outside of the box when you are publicizing your org. Often, creative advertising methods will also win you more attention than standard flyering. Flyers tend to be a high-effort, high-material, low-return form of advertising. But, the life-cycle impacts of paper are very small, and most schools use or have recycled or FSC-certified paper. In other words, don't worry.

4.4 Keeping Members

Membership recruitment goes hand in hand with membership retention. It is difficult to discuss one without the other. Membership retention concerns strategies and methods for keeping members. In general, effective membership retention strategies include developing good meeting logistics, providing opportunity for everyone, creating community, and rewarding your members.

Successful membership retention is often the result of a strong team dynamic, which is a sign of effective leadership. A strong team dynamic has the following aspects:

- Everyone at a meeting should communicate their opinions and ideas.
- People have a clear understanding of what is expected from them on a short and long term basis.
- Work is getting done well and on time.
- Your team should feel satisfied and proud of their work.

Set regular meeting times and locations. Time and time again chapter leaders have found out the hard way that changing your meeting location every week is disastrous for membership retention. If possible, reserve your meeting space in advance for the entire semester. Otherwise, pick a space that you know will be generally available.

If you can, look at when key required classes are offered, or when other major campus groups meet. If you know that first years always have a lab on Friday evenings, and you're looking to recruit some more first years, don't have events during that time! Try to avoid those times so you don't unintentionally prevent people from attending. You won't be able to avoid everyone, and that's OK too.

Make sure your members know about your meetings. This may be a big no-brainer, but it's easy to forget to send out a reminder email. You can use Google Calendar to set up a recurring meeting time that automatically sends out email reminders. Also, it is important to find a balance between making sure people know about meetings and overloading their inboxes. One recommendation is to email everyone the afternoon before, and post on social media the day of the event. Tell your members about your social media presence!

Make sure everyone has a voice at meetings. Often veteran members will dominate discussion during meetings. To ensure that everyone is contributing, provide opportunities for more people to speak up. Ask an opening question and have everyone go around and answer it (break up into smaller groups if needed). If one member is dominating the discussion, politely ask them to save their comments for later and invite someone else to respond.

Nominate exceptional members for campus wide awards. One of the most surefire ways to prevent burnout in any team setting is to highlight their accomplishments. If your school has campus-wide awards, be sure to nominate your project leaders, outstanding individuals, or anyone else you see fit. The nomination itself will be a huge compliment to the member and make them feel proud of your work. If campus-wide awards aren't a thing at your school, make your own! Remember that ESW-HQ also has annual awards for outstanding individuals, presented at our Annual Conference.

Say thank you. Unless you express it directly, your team may never know just how much you appreciate their hard work. Take the time to randomly send out a quick email to members highlighting a recent accomplishment. You should also reiterate this gratitude in person. It is especially crucial to thank newer and younger members on your team who may feel like they are not contributing as much. When you take the time to say thanks you keep your team motivated and happy!

4.5 Getting Started with Goal Setting

Now that you've recruited your first few members, how do you proceed? It is easy to focus on immediate tasks or simply start working on a project. What can get forgotten with this approach are efforts to building long-term capacity for your chapter and ensure that your efforts have a real impact. Goal setting helps alleviate these problems.

By setting goals, you are developing a metric in which you can assess the strength and growth of your chapter. You can determine if and where you are struggling as a chapter. When you accomplish a goal, you are providing tangible proof that your team's hard work paid off. Goal setting will help strengthen your chapter by giving you something to work towards.

Example Goals

Most ESW goals tend to be centered on one of three things: fundraising, projects, and recruitment. Check out the example goals to kickstart your goal setting process!

Increase membership by 10-15% by the end of the fall semester.

Create a working prototype of project by the end of the year.

Host two on-campus events related to sustainability education for students.

Co-sponsor at least three events with three other clubs on campus.

Finish current project by the end of the semester.

Fundraise at least $1000 through grants by the end of the year.

Sell at least $500 worth of merchandise by the end of the year.

Recruit at least 10 junior or senior engineering majors to increase technical expertise on projects by end of the semester.

Consult your team. While you may have a clear idea of what your personal goals for the chapter are, your team's input is vital to the goal setting process. Not only will they provide different perspectives and ideas, but the goals should be agreed upon by everyone involved in their fulfillment. Section 4.4 discusses running goal setting meetings with your team.

Make it feasible. Finishing ten projects in a year or raising $10,000 are not easily achievable goals for most chapters. Assess the strength of your chapter and determine what is feasible. It is more important that you set goals you can actually reach, as developing unrealistic expectations will lead to frustration, disappointment, and burnout.

Be specific. The more precise the language of your goal, the easier it will be for you to assess whether you have actually achieved that goal. "Recruit new members," while admirable, is vague. Instead, try to "increase involvement in project X by three members by the end of a semester." This statement makes it clear what kind of members you are seeking, when the deadline of the goal is, and how many members you want. It is these metrics that make this a specific goal.

Break it down. Once you have developed some overarching goals, begin thinking about the steps it will take to reach that goal. If you are trying to fundraise, you may first have to locate sources of funding, then apply to grants, then set up the financial system to process any awards.

Document it. One excellent method is to create and share a modified Gantt chart with your main and sub goals. If a Gantt chart seems too complex, at least write down your goals in a location that you see on a regular basis – an office white board or digital sticky note. If your goals are visible, they are less likely to be forgotten. Make time on meeting agendas to discuss current goals on a regular basis.

4.6 Leading a Goal Setting Meeting

Leadership would be a lot easier if you could throw all your officers into a room and have them come up with perfectly scoped goals right off the bat. But leadership is not easy and facilitating goal setting sessions requires preparation and skill. This section presents a sample structure for leading a goal setting meeting.

The main process of a goal setting meeting is illustrated below and includes four main steps: brainstorm, collect, focus, and SMART. We elaborate on each of these steps below.

Brainstorm. Kick off the meeting and get people thinking with a quick free write activity. Hand out a small stack of post-it notes to each attendee and first pose the following question: What has your chapter done well in the past year? Give everyone a few minutes to write out all their thoughts and the collect the post-its. Now for the real action.

Flip the question and ask attendees to think of areas they see ESW improving in? What issues do they see with in the chapter? Again, give them a few minutes to free write. Encourage them to generate as many ideas as they can think. We're going for quantity over quality here.

Collect. Gather everyone's post-it notes from the brainstorm and place them where they can be seen. A white board works great for this. The next task is to group all the ideas into categories. As the facilitator, you should have some idea ahead of time what these categories might be.

Post-It Notes

Such a simple tool can lead to powerful results. Post it notes are the bread and butter of goal setting. Hand a stack of post-its out to your officers and ask them to write out every idea that comes to mind. Then you can gather all the post-its and rearrange them on a wall to organize your ideas. Just make sure to recycle the post-its when you are done with your meeting!

If you're having trouble determining categories, reflect on the mission of ESW/your chapter. Focusing on projects, education, and community, the three pillars of ESW, is a great way to orient your goal setting meeting.

Focus. In a perfect world, you could address every issue raised in the brainstorm. Unfortunately, time and energy limit how categories you can focus on. Therefore, we recommend picking 3-4 of the categories you formed to spend your time on. You can take an informal vote to easily decide which categories to pick.

SMART. Use the SMART goal format to develop the goals you decided to work on in the previous step.

For example, you may originally have the goal of raising more money, but this is vague for several reasons: you do not have a specific amount set, you do not have a deadline set, and you have not connected it back to the mission of your chapter.

S.M.A.R.T. Goals

Below is an example of a S.M.A.R.T. goal around money. Instead of saying "get more money," we have fleshed out the goal.

Specific
Work with the Treasurer and President to apply for at least $3,000 in on-campus grants.

Measurable
Completed and submitted grant application(s), totaling $3,000 in potential funds.

Attainable
The Treasurer has experience in writing grants and we feel we are a strong candidate.

Realistic
This money will go directly towards project funds, the core function of our chapter.

Timely
The grants will be submitted by the end of the semester.

Learn more about SMART guidelines here.

5.0 Leading Teams

Recruiting & Goal Setting

5.1 Intro to High Performance Teams

5.2 Strategies for Building Teams

5.3 Team Contracts

5.1 Intro to High Performance Teams

Members? Check. Officers? Check. Project? Check. Ensuring everything is getting done? Not as simple. It takes a lot of work to get a team working together seamlessly. This a lot of theory out there about how to build good teams, and this chapter explores some of that knowledge. We are going to spend this chapter presenting specific leadership strategies you can take to promote good team dynamics in your own chapter.

Worst Case Scenario...

In this section we are going to explore what we want our teams in ESW, our executive board, our project groups, etc. to look like. But to kick-off that discussion, we are going to look at the opposite of the ideal team: what does ill-functioning team look like? If you think about the most frustrating team you have been on, you may come up with a list of characteristics similar to this one:

- Poor meeting attendance
- Lack of common goals
- Tasks not being complete
- Low team enthusiasm and motivation
- Mismatch of interests
- Lack of project leadership
- Poor or nonexistent communication
- Repeated roadblocks
- No one is having fun

Poor leadership can lead to poor teams, with members dropping off the face of the earth, unaccomplished tasks, and low enthusiasm. So what does the ideal team look like? With the proper leadership, your ESW teams may look a little something like this:

- committed to the project
- result oriented attitude
- innovative and creative
- concern for quality
- on time performance
- on-budget performance
- high involvemen, work interst, and energy
- good communication
- good team spirit
- mutual trust
- high need for achievement[1]

High Performance Teams

This is the kind of team business management people call High Performance Teams (HPT). That may sound like boring jargon, but it is actually a useful way to think about your ESW teams. Wikipedia defines a HPT as "…a group of people with specific roles and complementary talents and skills, aligned with and committed to a common purpose, who consistently show high levels of collaboration and innovation, that produce superior results."

How do you get from a low performance team to a high performance team? A guy by the name of Bruce Tuckman created a model of team development that we find useful in helping chapter leaders. He proposed that teams follow a five stage development process, involving forming, storming, norming, performing, and adjourning.

The end goal is to get to what Tuckman calls a "performing" team. A performing team has all the qualities of a high-performance team (HPT) discussed above, but just with a different name. He proposes that to get there, team first go through forming, storming, and norming phases.

In the **forming phase**, teams are coming together. It's the awkward getting to know each other part of team dynamics. Next, the team enters the **storming phase**. This is where many teams fail, as members begin to get pushy. Stress, high tensions, and control for leadership are normal here. The **norming phase** resolves team differences and team standards. This is where teams start to play nice, for real this time. Finally, a team enter the **performing phase**, where things finally settle down and the team starts producing meaningful work. Leaders can delegate work freely here.

In the next section we'll talk about specific strategies you as a leader can take to reach that performing stage.

1. Thamhain, Hans J., and David L. Wilemon. "Building high performing engineering project teams." Engineering Management, IEEE Transactions on 3 (1987): 130-137

5.2 Strategies for Building Teams

We ideally want members to be committed to projects, show up to meetings, and show genuine enthusiasm for ESW, but how you actually make this happen? There are many things you can do as a leader to promote the formation of High Performance Teams (HPT), teams that function like the description in the previous section.

In this section, we will talk about leadership strategies and methods for engaging members. This section draws heavily from the Student Leadership Challenge, which is a highly recommend read for all ESW chapter leaders. The Student Leadership Challenge presents five main methods for being a successful leader. For our purposes, we are going to focus on three methods from the Student Leadership Challenge plus one more.

Work With What You Got

Before we present the three leadership strategies, we want to share a pro-tip with you. One of the most common frustrations expressed among chapter leaders is that they do not have enough members to do cool work. They believe that only 50+ member chapters can be outstanding. This could not be further from the truth. You don't need a lot of people to do good work. A project team can be as small as two people--we have seen it happen before with great results. There are some chapters that consist of a really tight-knit officer board that end up producing some really spectacular projects. So buckle down and work with what you got. You might be surprised what you can accomplish.

Inspire a Shared Vision

The first leadership strategy stems from the belief that a strong vision can help motivate students. A vision unites students under a common goal. According to the Student Leadership Challenge, "A leader's vision should stir people to become involved; that occurs when the leader identifies a common purpose" Luckily, ESW has already done all the hard work for you and has a vision all of its own:

> *"A world of environmental, social, and economic prosperity created and sustained by local and global collective action."*

As a leader, you can engage members by sharing this vision with your members and new recruits.

Another method for inspiring a shared vision is to share your passion for ESW. Passion is contagious! One of the best methods for sharing your passion is to share you ESW story. What drives you to work with ESW? Why did you join in the first place? If you are comfortable, you can share your story at your next board meeting or recruitment event in order to inspire other students.

Enable other to Act

The guys over at the Student Leadership Challenge said it best when they wrote, "anyone with power can command commitment. A leader, however, inspires commitment." As an ESW chapter leader, you can enable others through a variety of methods. You can create specific positions to empower new members.

Many chapters have officer positions specifically crafted for first years or people with not that much free time. These positions

Student Leadership Challenge

The Student Leadership Challenge is a guide written by Jim Kouzes and Barry Posner for college students in leadership positions.

Rather than reinvent the wheel, we here at ESW want to highlight the excellent work that the guys at the Student Leadership Challenge have done to encourage student leadership.
If you have an interest in learning more about leadership theory and becoming a better leader, we can not recommend the Student Leadership Challenge enough.

Some college campuses teach workshop from the Student Leadership Challenge. Check to see whether your college is one of them and take advantage of this great opportunity!

5.2 Leadership Strategies for Building Teams

vary depending on your chapter, but some examples include someone who manages your social media accounts, a liaison to other sustainability or engineering organizations on campus, or a protégé to a project leader. This is also a great way to involve humanities and social science students, as you can include them on grant writing, social media management, public relations, and event planning activities.

You should also know the strengths of your team in order to work with them the most effectively. One popular method is to use the professional equivalent of the Myers-Briggs test called Strengths Quest. It costs money, so see if your school will help pay for it. Regardless, the test is worth it and will help your team understand what they excel at—this boosts confidence and allows you as a leader to tailor your task delegation.

If you do not want to spend any more, or simply want to have fun, you could something as simple and silly as the Hogwarts house sorting quiz for your team. The point is not so much the results but the discussion you have afterwards.

Encourage the heart

Finally, to create high-performance teams, we encourage you to encourage others. A good leader will "recognize contributions by showing appreciation for individual excellence. "So reward your team! One popular and cheap method of rewarding your team is host a paper plate awards. Traditionally, you buy some paper plates, draw a cute award on one side, and host a banquet to award them to all your members. The purpose is to celebrate everyone's unique strength on the team.

Some examples of paper plate award include Most Likely to Respond to Email at 3am or Best Gchat Fanatic. Let them know when they've succeeded or reached a goal and you will be doing your part as a leader to prevent burnout and promote engagement.

Personality Tests for Teams

Myers Briggs

Also known as the MBTI, this is the personality tests to end all personality tests. The real test costs money, but there are numerous free versions online.
Take the test!

Strenghts Finder

If the MBTI is for individuals, StrengthsFinder is perfect for teams. As the name implies, the test returns your top five strengths. Comparing strengths within a team can help you figure out how to delegate tasks.
Take the test!

The Dutch Test for Conflict Handling

While not a personality test, this will show you how you handle conflict. Compare results between teammates to disucss how to handle difficult situations.
Take the test!

Annual Awards

Did you know that ESW-HQ "encourages the heart" by giving out awards every year at the annual conference in the spring? We give out awards for "outstanding chapter" in every region and and a handful of "outstanding individuals."

These awards are our way of saying thank you to the incredible and inspiring leaders and chapters in our community.

If you think your chapter is awesome or know of a dedicated ESW member in need of recognition, email your Chapter Relations Coordinator to nominate them! We accept nominations all year round, but will officially announce nominations some time in the early spring each year.

If you can not be there in person at the conference to accept the award, that is okay! We will mail the award to you.

5.3 Team Contracts

A team contract is a written and mutually agreed upon document detailing how the team will function. While creating one may seem a bit formal for a student project, team contracts help establish accountability, develop norms for the group to refer to, and set up procedures for difficult or awkward situations. When you engage in professional engineering work you might have to develop a team contract – so might as well start early!

If you choose to implement a team contract, you should bring together everyone on the team. Including every officer's perspective and opinion is crucial to developing a fair and agreeable team contract. Arrange for a separate meeting before you begin working as a team to discuss and establish the contract. Trying to enact a team contract in the middle of a semester may disrupt your work flow and/or team dynamics.

Team contracts typically cover four main concepts: outline of commitments, ground rules, meeting logistics, and accountability. Example team contracts are included in the Appendix, but the section below will help guide you in creating a personalized team contract for your chapter. If you have a standard template, the process of establishing a contract can be less time-consuming and formal.

Example Abbreviated Team Contract

Responsibilities

- Do whatever your board descriptions says!
- Attend all events or inform board that you can't make it.
- Complete the tasks assigned to you.
- 48 hour email response policy.
- Speak up. Either at board meetings or later to specific people, voice your concerns.

Amnesty Policy

Sometimes board members cannot finish a task or can no longer commit enough time to stay on board. These things happen all the time for a million different reasons. A board member's responsibility to ESW in this situation is to communicate the problem to someone else on board. No one should blame or be blamed for an incomplete task or role.

Commitments

While each member will have their own specific responsibilities, a general set of responsibilities will apply to the team as a whole. These "commitments" clearly spell out what is required of all the members and sets the tone for the project team.

Examples:

- *We will do our best to attend all project meetings.*
- *We will attend all ESW related events unless excused.*
- *We will agree to only do work that we are qualified and capable of doing.*
- *We will be honest and realistic in setting goals for the project's future.*

Ground Rules

Ground rules are the set of expectations for how your team will communicate and interact with each other. They are first and foremost intended to create a safe and open environment for people to work and talk in, but they also provide clear guidelines for you to step in and do your job as a facilitator. If someone is not following the ground rules, you not only have the right but the responsibility to step in and correct the situation.

Examples:

- *We will stick to the agenda during meetings.*
- *Only the secretary and PM are allowed to have laptops open during board meetings.*
- *We will provide only constructive feedback.*
- *We will not interrupt other members during meetings.*
- *We will remember the wise words of Craig Ferguson: "Does this need to be said? Does this need to be said by me? Does this need to be said by me now?"*

5.3 Team Contracts

Meeting Logistics

It is important to communicate meeting logistics with your team so that everyone can help to make meetings more efficient and effective.

Examples:

- *The team will meet every week.*
- *The meeting time and location will be determined by the first week of classes.*
- *The agenda will be released at least 12 hours before a meeting.*
- *We will come to meetings on time and prepared.*
- *We will inform the leader 12 hours in advance if we are unable to attend a meeting.*
- *The leader will facilitate the meeting.*

Accountability

Finding ways to hold people accountable is both hard and often awkward. As students in a volunteer extracurricular group, it is rare that you have any serious way to respond to individuals that are not meeting reasonable expectations. It is also likely that those individuals are friends, and asking them to leave or imposing restrictions is never a fun conversation. These reasons are why accountability is a key piece of a team contract - if they are agreed to at the beginning of a project, the discussion has already occurred before the problems appeared.

Examples:

- *Failing to regularly communicate problems is grounds for an individual discussion with the project leader.*
- *Members that fail to attend meetings will receive lower preference in presenting the project at events, both locally and nationally (e.g. the ESW Annual Conference).*
- *Consistent failure to finish assigned tasks is grounds for dismissal from the team, and loss of credit for project completion*

Case Studies in Conflict

Here are some case studies to get you thinking about your team contract. Discuss your answers with your officers!

Case #1: **Teammate Procrastination**
One of the members of your three-person team is frequently late when completing assigned tasks. When work is completed, it is done so in a rushed manner. Ignoring this team member will add significant burden to others on the team, but waiting around for her will put the project at risk. What will jump start this under-performing team member?

Case #2: Member Differences
Two team members are in constant conflict about the quality of work produced. Member A is meticulous and particular about every detail of the project. Her work is very good, but she proceeds very slowly. Member B is responsible and does not cut corners, but she strives to finish project work quickly by not being as meticulous. How can this difference be resolved?

Case #3: Member Autonomy
Several members of a design team are striking out on their own path. They are resistant to following suggestions by mentors with respect to their process, fabrication, and teamwork. When they do take part in recommended activities, it is done to “get it over with” and get back to doing things their way. What can be done to ensure that resources to the team are leveraged in a responsible manner?

Case #4: Client Unavailability
Your project client is a challenge to work with. He is frequently
unavailable to meet with the team and is unresponsive to queries about design selection and preferences. What should be done to ameliorate the difficulties in client-team interaction and to ensure maximum client and team satisfaction with the project?

6.0 Managing Teams

Task Management & Meetings

6.1 Task Management Process

Now that you've gotten a team together, how do you go about making sure everything is getting done? Management goes hand in hand with leadership for ESW chapter presidents.

In this chapter we will explore how to proficiently manage your team, whether that be your officer board or your project groups. First we talk about task management and the various web tools that can assist you. Then we cover the basics of creating a team contract to help with the overall cohesion of your teams. The chapter closes with a guide on how to lead effective team

Whether you are managing a project or an event planning committee, being able to manage tasks is a useful skills for a leader. Task management is how one oversees and guides the start to finish of a task. Knowing how to manage tasks can make all the different between feeling completely overwhelmed and feeling like you got everything under control.

To the right we break down the task management process into six steps.

1. Break down a larger goal into specific tasks. You should be as specific as you can when you assign tasks so that there is no room for miscommunication. Telling your board member to "go fundraise," is not as effective as saying "search these websites for grants we can apply to." When faced with a larger goal, start by breaking it down into smaller specific tasks.

2. Create a timeline of tasks, if applicable. Especially for project managers, you will need to prioritize and order the lists of tasks you created in Step 1. This will help you be efficient, as you will be prepared for the next steps of your goal or project.

3. Delegate tasks to members. Remember the note on not doing everything yourself? Divvy out tasks to the appropriate members. This may be based on their position or on their skills and qualifications. Make sure the members are comfortable with the amount of work you have assigned them.

4. Establish a deadline. Some people hate deadlines, but the truth of the matter is that deadlines are a useful tool for leaders to ensure that work gets done. Deadlines clearly communicate when you expect their task to be complete, and the majority of people on your team will need a deadline to push them to do the work.

5. Follow up and check in with your members. This is especially important if you have assigned a large task with a deadline far into the future – see if you could break it into smaller pieces. You should regularly check in with your team to catch up on their progress. In addition to checking in with every person on your team at meetings, you can send out emails.

The trick here is to create an open and honest environment among your team. Your team should be comfortable telling you how they are progressing with a certain task. If they are struggling, you should work with them to provide support and/or resources.

6. Reevaluate the task if problems occur and repeat steps 2-5. We all have bad weeks, and sometimes you will need to reassign tasks to other members or pause your work. Be honest with yourself and your team about the progress being made.

Upon completion, communicate this to your team. Be sure to let your team know once you have completed a task. This will make your team feel accomplished and let everyone know that you are making progress.

6.2 Task Management Tools

There are many resources and tools available to assist you in task management. Every leader operates with their own preferences, so it is up to you to determine what works best for you. Do not be afraid to change methods if it is not working! This list represents some of the tools that have worked for ESW-Headquarters or Leadership Team members.

Gantt Charts

Gantt Charts are an industry standard in engineering. Even if you have not heard of a Gantt Chart, you have probably used something similar to it. The chart breaks down all the specific tasks in a project in a formal manner and shows the start and end dates, the assigned team member(s), and any additional comments. These charts can be adopted and adapted for just about any goal you can think of.

Gantt Charts help make delegation easier and ensure that your objective will be completed within deadlines.

Creating a Gantt Chart

Having a step-by-step guide for the rest of the year is great, but how does one even go about creating a Gantt Chart in the first place? How can you anticipate everything you have to do? How will you know how long each task will take?

There is no right way to go about creating a Gantt Chart, but a good first step can be to brain dump every task you can possibly think of that goes into the larger project. Grab the nearest white board and your team members and write out every task that comes to mind.

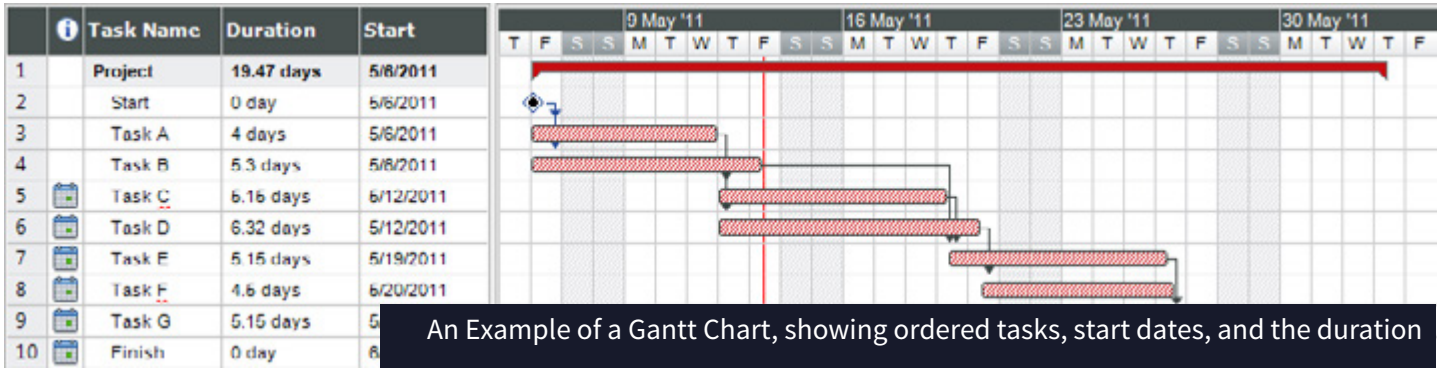
Once you have brainstormed potential tasks, you can start grouping and organizing them. Filtering through the tasks you might see that you need to expand on one of them or even add sub tasks.

Then you can begin estimating, the process of determining how much time each task will take. This will become easier in time, but for ESW it is better to overestimate than underestimate. You do not have to worry as much about client expectations or going overbudget.

With an organized list you can begin to create a hierarchy. What needs to be accomplished first before you can move on? What can wait till later and what needs to get done now? These kinds of questions can give you a rough sense of when you need to start tasks. Creating an accurate timeline is an iterative process. Start with the general month, then the week, and then finally the day.

In a Gantt Chart, the lowest level task is called a work package. A wok package should take between 2 and 20 hours long to complete. This ensure that no task spans longer than two weeks (or two reporting periods). Try to aim close to 2 hours than 20.

Finally, use verbs, not nouns, when writing out tasks. Determine the action that needs to be taken. This will help immensely!



		Task Name	Duration	Start
1		Project	19.47 days	5/6/2011
2		Start	0 day	5/6/2011
3		Task A	4 days	5/6/2011
4		Task B	5.3 days	5/6/2011
5		Task C	6.16 days	6/12/2011
6		Task D	6.32 days	5/12/2011
7		Task E	5.15 days	5/19/2011
8		Task F	4.6 days	6/20/2011
9		Task G	5.15 days	5
10		Finish	0 day	6

An Example of a Gantt Chart, showing ordered tasks, start dates, and the duration

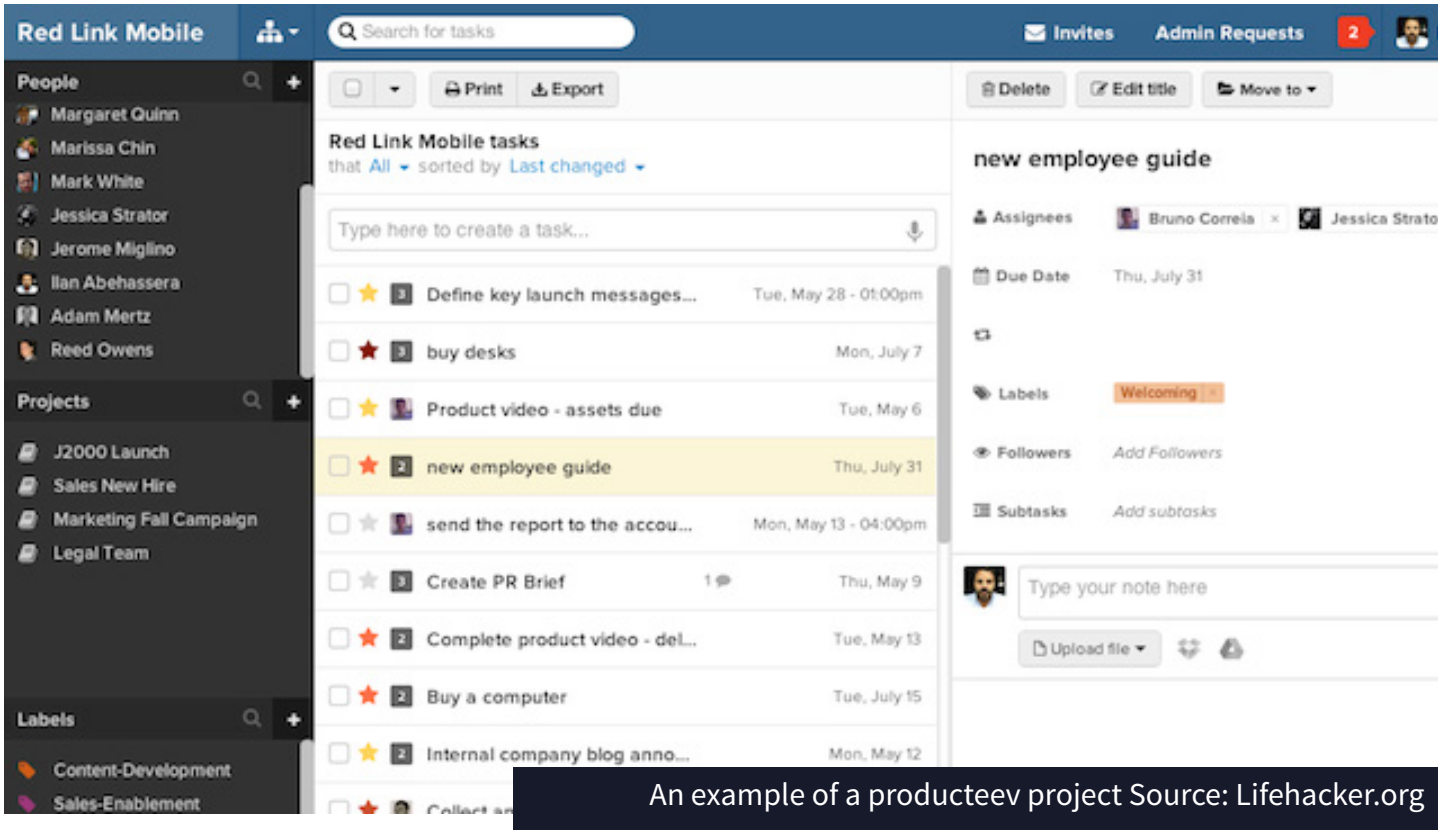
6.3 Task Management Tools

Producteev

There are many online task management applications, but Producteev is one of the best team-focused options. It's free, available for many platforms, and is structured around multiple people and projects.

Producteev is like a glossy version of a Gantt Chart. For each project you can create a list of tasks. Clicking a task will expand a panel on the right (shown above) where you can assign the task to members, set a deadline, and create a list of smaller subtasks. Tasks can be set to repeat on whatever frequency you need, which can be useful for reminders like creating meeting agendas, sending out a newsletter, and emailing project managers. Producteev will automatically send emails to all assignees when a deadline is approaching, and you can adjust when this email goes out.

Producteev definitely has a learning curve and can seem like a lot at first, but it is a great product if you are looking for an all-inclusive app for serious task management.



An example of a producteev project Source: Lifehacker.org

Google Calendar

If you prefer something more visual, Google Calendar is a deceptively powerful tool for task management. Combined with the built-in task list, you can accomplish a lot with Google Calendar. Tasks will show up in the tasks sidebar on the right-hand side of your Calendar as well on top of the days of the week. Once you are done with a task, marking it off on Google Calendar is as simple as clicking.

Google Calendar is the perfect tool for the minimalist. You can not filter, group, or organize tasks. It the equivalent of keeping a bullet journal.

More Apps

Asana. Producteev's twin.
Habit RPG. Turn your task list into a video game.
Remember the Milk. For when you just need to remember what to do.
Plain ol' journal. You can't beat a classic

6.3 Running Effecting Meetings

Think about the worst meeting you have ever had the misfortune of attending. What made this meeting so awful? Did the facilitator drone on in a monotonous voice? Was there an attendee who just had too many feelings? Did you leave feeling like you just wasted an hour of your life? This section will provide you with the knowledge and tools to avoid these problems and (instead) host exciting and effective meetings.

A general body meeting at ESW-UT Austin.

Determine the objective of your meeting – avoid meeting just to meet. Every meeting has a purpose. A board meeting might be to assess your officers' progress on certain tasks, a meeting with a project manager might entail determining how to proceed with a project, and so on.

Schedule your meetings online. When dealing with large groups of people, simply asking for general availability can lead to a logistics nightmare. Try using When2Meet or WhenIsGood to schedule your next meeting .

Create an agenda or set of talking points. Your agenda should speak to the goal(s) of your meeting. Start by writing the purpose of the meeting at the top, and then develop the talking points to reach this goal. For reoccurring meetings like board meetings, you might want to keep a working agenda draft open for easy editing as issues pop up during the week. On the other hand, if you are setting up a one-time meeting you should develop a set of informal talking points.

Never leave a meeting without determining the next steps. This simple tip will improve the effectiveness of your meetings tenfold. Leave time at the end of your meeting to develop and communicate the next steps with the other meeting participant(s). Ideally, everyone who attends should leave with something to do. Review everyone's individual tasks, making sure that no one person has more than their schedule can handle. It is important that everyone is on the same page when you part ways.

Engage all your members. A good metric for judging good meetings is to gauge the percentage of people that participated or spoke up. If you find that certain people never say anything in meetings, there is a good chance they feel like their time is being wasted and may stop attending altogether.

Be enthusiastic. People will respond to the facilitator's mood. If you are visibly stressed or distracted, others will be nervous or checking their email. Alternatively, if you are upbeat – regardless of your internal state – the mood in the room will be a more productive environment. Sometimes you need to fake enthusiasm to make things work.

6.4 Officer Meetings

For most chapters, weekly meetings between chapter leaders and officers make sense. For small chapters, this would include all your officers, but for larger chapters with over fifteen officers it may be more effective to meet with only your key officers (President, VP, Treasurer, Secretary, etc.) and have them meet separately with their individual teams. It is up to you to determine the frequency of meetings that works best for your chapter.

Because officer meetings are regularly scheduled, they run the risk of happening even if they are unnecessary, and being a source of stress rather than productivity in officers' lives. To help avoid this, keep the atmosphere friendly, make sure the topics of discussion are relevant and will fit in the available time, and be comfortable canceling a meeting occasionally if there is nothing new to discuss. The timeline below is a good example for a regular board meeting. Don't feel obligated to use this exact procedure, but understand that the format has worked well for many chapter leaders. An example agenda following this format can be found here .

Sample Agenda

1. Start with an opening question.

"If you could max out your credit card in one store, what would it be?"

An opening question provides a low-risk opportunity for everyone at a meeting to speak up and a chance for your officers to bond with each other. Icebreakers can be awkward, weird, or just plain boring. Insightful and carefully picked opening questions are like the adult version of icebreakers. Take a look at some of these opening questions on the right panel.

An alternative opener often taught in workshops is to go around the room with each person listing a "rose, thorn, and bud." Each term refers to a question: "Rose" for something good that has happened, "thorn" .for something bad, and "bud" for something you are looking forward to. This activity can feel uncomfortable at first, but it is highly rewarding you get into the habit of starting your meetings this way.

2. Verify the agenda with your officers.

"Does anyone have any questions about the agenda before we begin?"

Make sure every officer is on the same page before a meeting begins by going over the agenda. It helps to send out the agenda a day in advance to allow time for officers to comment and add agenda items. If your meeting entails any large discussion, sending out the agenda beforehand will allow your officers to prep in advance. Consider making your agendas Google Documents so every officer has editable access to them before, during, and after the meeting.

3. Updates and progress reports.

"Everyone go around and state what they have been working on this past week. If you have not done much, say what you plan to do this week. I'll start".

Opening Questions

- If you could look endlessly into the past or endlessly into the future which would you pick?
- If you had to say goodbye to facebook forever or microsoft word forever which would you pick?
- If you could do something physically risky with the certainty of surviving, what would you do?
- Who is your favorite historical scientist?
- If you weren't an engineer, what would you pursue?
- Who is your favorite feminist icon?
- Do you drink coffee Y/Y?
- Your life is turned into a major motion picture. What song must be included in the soundtrack?

6.4 Officer Meetings

If you do anything during your board meetings, do this. Asking each of your officers to discuss their progress is essential during board meetings. This ensures that officers are actively working on their tasks and provides an opportunity for them to ask clarifying questions. Communicate to your officers that they will be expected to provide an informal (or formal, if you prefer) progress update at the start of every meeting so they can prepare.

Do not spend more than half your meeting reviewing everyone's progress. To help cut down on time, have everyone write down their accomplishments before the meeting, and ask them to highlight specific accomplishments or tasks. This can be added to the agenda if it is shared online through Google Drive

Actively listen to each of your officers as they provide you with a progress update and take notes. You should compare this with tasks and goals established at the previous meeting to determine if they are on track. Keep in mind that everyone has bad weeks, but if someone is regularly under-performing, talk with them separately.

4. Discuss your agenda items.

"The first thing on our agenda is our upcoming interest meeting. We need to book a room, get food, and advertise."

The bulk of your meeting will be dedicated to discussing whatever issues are on the agenda. If you have a secretary, or other assigned person, taking notes during the meeting, make sure they understand exactly what to write. The secretary should not try to capture every word that is said. Instead, it is good form note:

- Key points from the discussion
- Any questions that could not be resolved
- Tasks that people have volunteered to take on
- What needs to be done next

5. Delegate tasks and review next steps.

"We've covered everything on agenda, so let's review what we are all going to do this week."

Remember the tip about never leaving a meeting without determining the next steps? You should leave time at the end of board meetings to go over everyone's task for the next week(s). Go around and have each officer describe what they intend to do, making sure you include yourself. If necessary, establish and note deadlines for certain tasks and clarify any last minute questions. Note everyone's tasks for reference at the next board meeting.

6. Follow up by email.

the sounds of typing an email

After the meeting, send out the meeting minutes to all your officers – including those who missed the meeting. Summarize any important discussions or resolutions that occurred. Finally, state once again what everyone is expected to work on in the next week(s).

10 Minute Standup Meetings

Take the chairs away and suddenly you will find yourself in a challenge to make the meeting as efficient as possible. Stand up meetings are literally meetings where you stand up. The physical discomfort of standing forces everyone to keep it to the basics.

In a stand up meeting, focus on what you have accomplished, what you plan to accomplish, and any difficulties you expect to encounter.

This is not a tactic for your every day, but having one or two ten minute stand up meetings a year can spice up an otherwise monotonous process. The purpose of these meetings are not to substitue your regular meetings, but rather to force you to think creatively about what is and is not important to include in your meetings. I

Part 3: Design/Educate/Build

7.0 Design

Starting, Leading, & Finishing Projects

7.1 Getting Projects Started

Hands-on engineering projects are at the heart of ESW's mission. What better way to "build a better world" than to actually build something! When you are first starting out as a chapter, completing your first major project can be a daunting task. This chapter covers the basics of finding and managing a project. ESW-HQ has also developed a more detailed document focusing on working with stakeholders to identify needs, developing design specs, and working towards implementation—you can read that here. We recommend that your project manager read through it, and/or ask our Projects & Education staff for help when starting large new projects – we're here to help.

Starting a new project can seem overwhelming. You may have a thousand ideas that you do not know how to choose from. You may have no ideas. Both are fine places to start from. While creating a project from scratch involves a lot of planning, ESW-HQ has made the process a bit easier to navigate by laying out a series of steps you can take to develop a project. The following is a general overview of the steps you can take to develop a new ESW project.

Project Leader Guide

DOWNLOAD HERE

1a. Get inspired. At some point, every product, process, or service started out as an idea in someone's head. While sometimes you may be approached by an outside organization or company with a project, often the project idea will come from your local members. Here are some ways to get inspired:

- Take a look at past ESW projects
- Read up on current developments in the field of sustainable engineering
- Talk to your faculty adviser or other professors
- Reach out to your Regional Chapter Coordinator
- Consume books, scientific journals, articles, blogs, videos, and podcasts

The point is to start thinking about a general idea for a project. For example, maybe you read an article about a new method of generating wind energy by using wind belts. You are impressed and want to work with wind energy. This could be the beginning of a wonderful project (and you should probably talk to ESW-Pitt)!

1b. Identify the need. New projects must match a real world need. Needs are specific to the stakeholders involved, which can include individuals, groups, or organizations. Another way to approach this is to ask yourself: "Who would we be working with, and what are they interested in?" Say you sit down with your athletic department, which wants to improve the school's gyms by installing generators on treadmills.

When you identify the specific need, you might shift from "install new technology" to "save energy". By starting from the need, you may find more cost and time efficient methods to achieve this goal. This could include installing more efficient lighting, putting timers or motion sensors on the lights, installing programmable thermostats, improving insulation, etc.

1c. Establish partners. Designs do not exist in a vacuum. Whatever need you have identified will affect some person or community. Because your work will have an impact outside of your team, it is critical to identify partner(s).

7.1 Getting Projects Started

Partners can also be a starting point for a project – a known need or interest for you to work from. Examples of project partners include:

- Campus facilities or dining departments
- Local parks and recreation departments
- Neighborhood development organizations
- K-12 schools (private is easier than public) or science museums
- Campus academic departments such as environmental engineering or sustainability studies
- Other campus groups
- Local businesses, especially those that cater to college students

Developing relationships with partners is important, and this step can take many different forms. Ideally, you will work with the same partner on several projects over time, and your officers and their leadership will have good lines of communication about new ideas. ESW is comprised of students that are, in the best case, with the group for five years. Your project will likely have an impact that spans many years.
Finding the right partners that have a vested interest and the skills and resources to maintain the project is critical to the long term success of the project.
For more about developing relationships, see Chapter 7.

2. Do your (preliminary) research.
Before you commit to a project, you need to research the issue. This will help you determine if the project is feasible for your chapter. Do not be afraid if you discover that the project is beyond the realm of your human, financial, or technological resources. This is why you are doing your research now!

You will want to get a grasp on the engineering principles of the project, estimate the potential cost ($100? $1,000? $10,000?), and gauge the general time-frame (one semester? two years? five years?). Again, the point is to determine to feasibility of the project, not to become an expert. Talk with professors on campus that work in this area – they can help you estimate some of these aspects. Reach out to your CRC to see if other chapters have worked on something similar.

3. Develop design requirements.
Before you invest project member time in materials or numerical design, you need to know—as specifically as possible—what the requirements are. There are a lot of intermediate steps that go into developing a set of design requirements – often called DRs. For a full listing, we refer you (again) to ESW-HQ's Project Tracking document .

To begin, you should arrange a meeting with your stakeholders to determine their specific needs—what they want from the project. Given their needs, you should then develop a set of technical design requirements. For example:

Customer Requirement: "It should be easily movable."
Technical Requirement:
The product must weigh no more than 40 lbs and have ergonomically located handles for a single person lift.

Customer Requirement: "It should be quiet so as not to interfere with nearby conversation."
Technical Requirement: The product must produce no more than 60 dB (A weighted) at a distance of 1 meter.

4. Write up a project summary.
At this point, you should a solid understanding of the project. To help advertise the project, orient your future team members, and provide a valuable resource for other ESW officers, you should create a project summary form. A project summary form contains:

- Project title
- Sponsors with contact information for liaisons
- Section discussing the scope and overview of the project
- Background information (as needed)
- Final project deliverables

7.2 Project Management

There a hundreds of books dedicated to project management, and a few are listed in the resources section at the end of this chapter. In order to save you time and provide you with a starting point, this section covers the bare essentials of project management .

The same principles outlined in Chapter 4 can and should be directly applied to project management. Head there if you haven't already - projects can be a different space to try out new or different tools for task management techniques.

It is best to begin on a solid foundation – the engineering design process. You are likely familiar with some version of the engineering design process; however, it is vital to have a strong grasp on the specific stages. The figure below illustrates the seven main steps a team will take to design a product. Chapter leaders and PMs alike should use these steps as guidelines for overseeing and managing the project team.

Steps 1 and 2 have already been covered in the above section. These two steps are best done by the chapter leader or project manager (if one has already been recruited). The remaining steps should be approached by the entire project team. However, your first step as the chapter leader after developing a project is to recruit a project manager.

Project Managers

It should sound repetitive by now: you cannot do everything yourself. This is especially true when it comes to projects. Managing a project requires just as much work – sometimes even more – than managing the chapter. Therefore, it is critical that you recruit and/or designate a project manager (PM) to take ownership and manage a project.

Broadly speaking, the project manager encompasses five main responsibilities:

1. **Planning** in advance to determine the scope, requirements, timeline, budget, and other factors of a project.

2. **Delegating** tasks out to project team members such that the work is getting done efficiently and effectively.

3. **Documenting** all work and progress in the appropriate manner

4. **Motivating** and inspiring team members to encourage active and continued project participation

5. **Evaluating** the work produced to ensure that the project is on the right track.

These responsibilities manifest themselves in the following duties:

- Acts as a liaison between the project team and the president (or other appropriate officer)
- Acts as a liaison between the chapter and the sponsor(s) and/or stakeholder(s)
- Recruits members for the project team
- Develops a schedule to ensure the completion of the project within deadlines (i.e. creates and manages a Gantt Chart)
- Delegates tasks and action items to appropriate teammates
- Holds teammates accountable for their tasks

Book Recommendations

Project Managers Portable Handbook
David L. Cleland
This book is a go-to classic on engineering project management. If you want one book that explains it all, this is it. "Portable" may be a stretch of the imagination, but you can read through it quickly!

More Books:

Making Things Happen: Mastering Project Management
Scott Berkun

The One Minute Manager
Ken Blanchard & Spencer Johnson

The Power of Habit: Why we Do What We Do in Life and Busi-

7.2 Project Management

Coordinates and leads project meetings
Oversees the project budget

This is not a comprehensive list. You are encouraged to redefine the PM's duties based on the nature of your chapter and the scope of the specific project.

The PM plays a critical role on the team. A good PM can ensure success, and a poor project leader can add frustration and stress to a team. When recruiting a PM, you should look for a balance of technological knowledge and personal character.

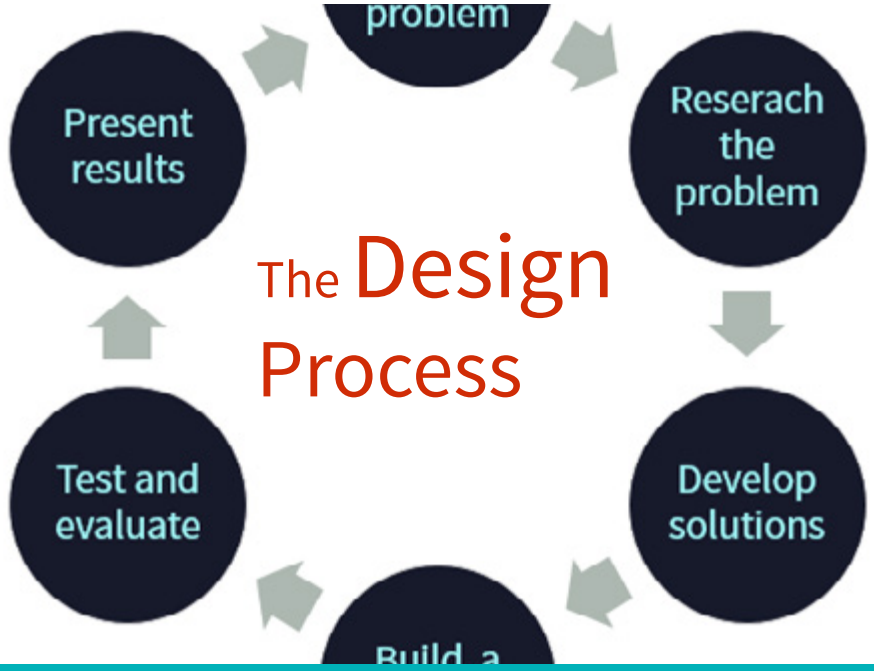
Given the nature of the position, these are just some of the personal traits you should look for in a PM:

- Able to communicate effectively - will people understand their ideas?
- Responsible - can you trust them to act on their own?
- Decisive - are they comfortable making decisions at key points?
- Able to work with a diverse team
- Works well under stress
- Able to multi-task
- Socially comfortable – able to work well with people

Project management is a skill, and like any skill it must be practiced before you become good at it. At the undergraduate level, it is unreasonable to expect anyone to be experts at project management. There are entire graduate program that teach engineering project management – project managers are often promoted to the position after years of serving at the heart of industry. However, ESW provides the perfect environment to begin developing project management skills. The experience of leading and managing a project will also put ESW members ahead of the curve when looking for employment.

"Engineering design is the performing of a very complicated act of faith"

-J. Christopher Jones



The Design Process

Scientists get the scientific method. Engineers get the design process. Unlike the stable, linear steps of the scientific method, the engineering design process is an amorphous set of iterative tasks. While the above image shows six simple steps looping nicely among themselves, the real life design process can be a messy interlinking set series of actions. However, it is useful to simply the engineering design process into sex main steps: identifying the problem or need, researching the problem, developing multiple solutions, building a prototype, testing and evaluating the prototype, and presenting the results.

If the process is a circle, how do you get out of the loop? It is not always obvious when you finally have a final product. This is where foresight comes into play. IF you have developed a set of design requirements then you know exactly when you have finished---when you have satisfied them all! If you have developed your requirements with your client, you can be sure to engineering a product or system that will make them happy.

7.3 Example Projects

ESW has a strong history of doing innovative and sustainable projects. Here are just a few of the projects chapters are doing. For a larger list of ESW projects, refer to the ESW Project Database. If any of these projects inspire you, please do not hesitate to reach out to the Leadership Team to learn more about replicating the project at your school.


Aparatus X Penn State


Solar UT Austin

HSA Educational Outreach Program

Texas Tech · Community · 5 members

Outreach program at local school, Harmony Science Academy, targeted to 9th-12th graders and intended to educate participants in areas of how engineering can and does contribute sustainability solutions to problems in society. These educational sessions included a presentation and hands-on activity, e.g.; a talk about engineering and transportation followed by an activity where hydrogen was produced by electrolyzing water.

Solar Slider v2

University of California--San Diego· Campus/Research · 5 members

The Solar Slider v2 is a mobile solar charging station with solar tracking. This team of five engineers will research, design, and build a sustainable and efficient mobile solar charging station. The primary goal is to educate students and other members of the community on the applications of solar energy and the practicality of it in our society.

7.3 Example Projects

Green Fund

Harvey Mudd · Campus/ Research · 6 members

ESW-Harvey Mudd is hoping to persuade Harvey Mudd's Board of Trustees to set aside money from the endowment for investment in sustainable projects on campus, and plan to present to the Board of Trustees in September.

Fryer Waste to Fueling Wheels

UT Austin· Campus · 3 members

This project proposes to implement a biodiesel recycling program at UT Austin, starting with a pilot phase to determine overall supply and demand projections for the biodiesel fuel, gauge student interest in the recycling effort, and minimize possible shortcomings of a large scale recycling project. After a year of testing, networking, and steady growth, the second phase will expand biodiesel production and campus presence.

Apparatus X

Penn State · Community ·20 members

Apparatus X is a mobile disaster relief vehicle that will travel to the site of a natural disaster and help rebuild homes. The team has raised $25,000, and after spending t the past year designing the vehicle is are half-way through construction.

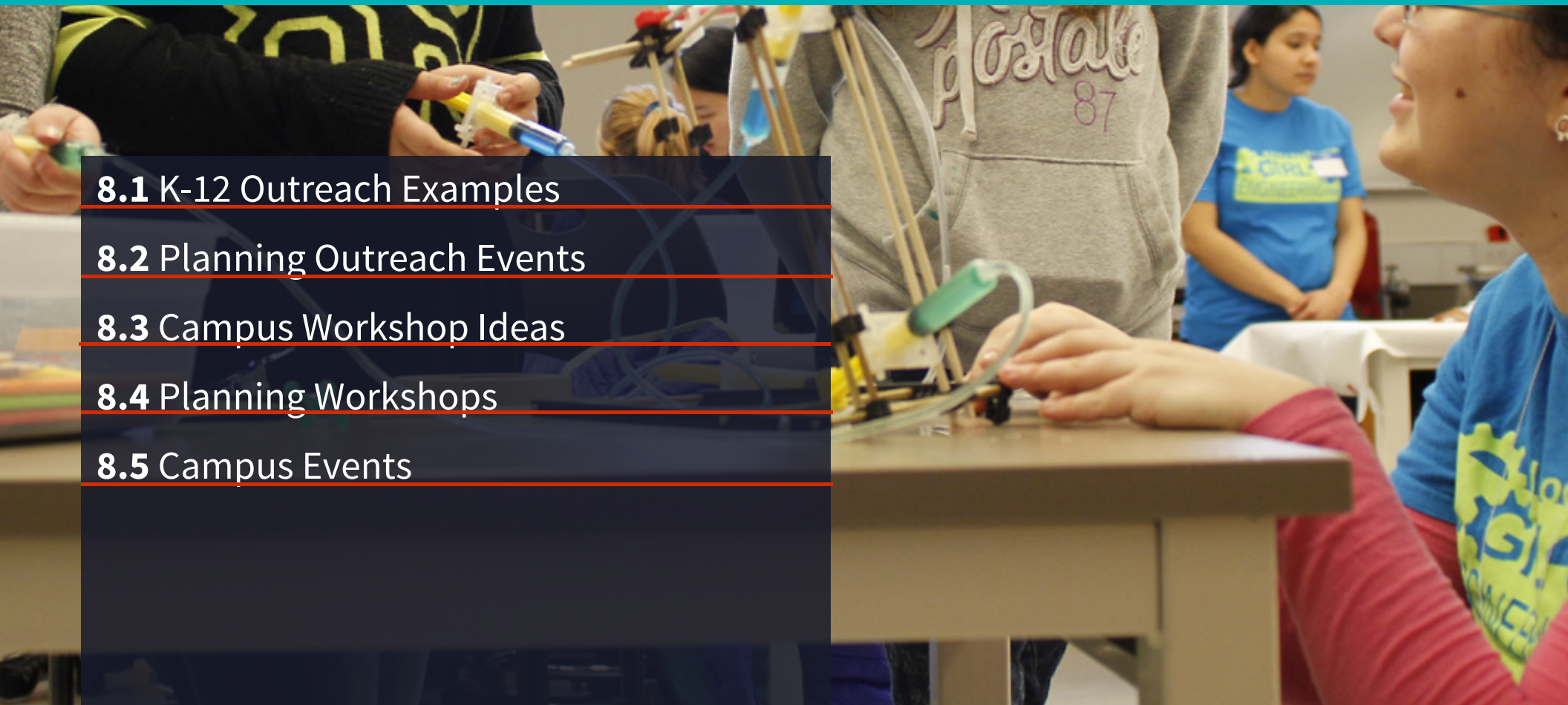
Remote Monitoring for Micro-Hydro Systems: Indonesia

Stanford · International · 6 members

A major issue for non-profits in the rural electrification industry is the difficulty in finding a streamlined way to monitor each project post-construction to ensure long-term sustainability. Two causes of this issue are that non-profits have limited human resources, and power generation sites in rural areas are often difficult, expensive, and time consuming to access. In order to address this issue, students in the RMS project will design an affordable and easily maintained micro-controller with SMS capability to log and transmit generation data (voltage and current) as regularly as specified. The hardware will also be complemented by a user-friendly application that will decode, store, and analyze the SMS data.

8.0 Educate

K-12 Outreach & Campus Initiatives



8.1 K-12 Outreach Examples

Education is near and dear to ESW, with one third of our tagline (design educate build) dedicated to it. Practically everything you do as a member of an ESW chapter goes back to education. All your project experience is giving you a hands-on engineering education. But there are other ways to incorporate education in your chapter. We primarily divide education initiatives into two categories: K-12 and student based. On one hand you have K-12 educational outreach. This could include working with local school teachers, hosting kids on campus, or volunteering at a science fair. On the other you have educational initiatives aimed at your peers. A great way to engage in this is to develop and host workshops.

You can learn more about workshops and educational outreach in this chapter. We present excellent examples of educational work done by chapters to get you inspired and then provide some tips for replicating these

While educational outreach is not a vital component of ESW, it is something that is near and dear to a lot of chapters. Educational outreach can help inspire the next generation of sustainable engineers, just like ESW is doing for undergraduate engineering students. Outreach helps to show what engineering really is (and everyone has their own definition of engineering). You can get kids excited about sustainability and get them asking questions about sustainability in their own life and community. It is also just a great way to give back to your community. And finally, it provides leadership experience for your members.

To get you inspired, here are some of the educational outreach events ESW chapters have hosted.

Explore UT

ESW UT Austin

ExploreUT is an annual all-campus event at the University of Texas in Austin that invites kids of grades K-12 to come explore educational activities hosted by campus organizations. In the past, ESW-UT has set up a booth and let children build their choice of a solar, wind, or rubber-band car.

ESW-UT Austin during their Explore UT outreach event.

8.1 K-12 Outreach Examples

A Closer Look at Introduce a Girl to Engineering Day

Mechanical Activity

Instructions are so overrated. So for this activity girls were given the pieces of an advanced hydraulic arm kit and were given one simple task: get the arm to work! They went through a rapid iterative process to get their ideas to work.

Civil Activity

AutoCAD is an essential software for civil engineers, so girls were tasked with designing a house for a real life client. After mocking up the house in CAD, they laser printed their pieces on chipboard.

Electrical Activity

Escaping from Mars was the main challenge here. Girls built a LEGO Mindstorm robot and then programmed it to navigate Mars. Before the kids arrived, the members created a fake land of destruction and placed Lego men in the midst of the destruction. The goal of the activity was for the kids to create a sustainable structure that would save the Lego men from the destruction. Around 200 kids visited ESW-UT's booth!

Girl Day

ESW-Smith

Every year as part of eWeek, Smith College joins dozens of other colleges in hosting Girl Day, an outreach event aimed at getting middle school girls interested in engineering. Student volunteers designed activities that covered electrical, civil, and mechanical disciplines of engineering. During their 2014 event, 135 girls were tasked with one of three design challenges: to program a LEGO Mindstorm robot to escape off Mars, design a laser-printed chipboard house for a real life client, or construct an hydraulic arm.

Students Sustainability Outreach Day (SSOD)

ESW-UCSD

ESW-UCSD held a variety of workshops and activities throughout the day, all touching upon some aspect of sustainability, in an effort to motivate young high school students to lead more sustainable lives and pursue higher education.

To name a few, ESW hosted a wind turbine workshop where the students worked in groups alongside an ESW member to construct a wind turbine model. Students were able to see first hand how wind energy could be harvested to power something--in this case, an LED light.

Other activities throughout the day consisted of a gardening workshop where the students planted and got to keep drought-resistant plants and a college student panel where the students asked questions about what it means to be sustainable and the general college experience.

8.2 Planning Outreach Events

Planning an outreach event isn't so much a linear process. Event planning is messy and the amount of work involved depends on the size of your event. However, there are a few ubiquitous tips we can provide.

If you are thinking of planning an outreach event but don't know where to start, there are few methods to get the ball rolling. You can get in contact with any faculty that are engaged in educational outreach to see if there are any opportunities for ESW members to get involved. You can see if there are any teachers in the area that would be willing to let ESW members facilitate an activity in their classroom. Finally, always, be on the lookout for cool STEM events in the area, they always need volunteers

Working with kids can be tricky. Not only is there a certain liability issue in working with kids, they can be quite the handful. If you are inviting kids to your college campus, first, get in contact with the appropriate office or faculty member to see how the college handles having kid on campus. Check with your college to see if you need photo release waivers and liability waivers. If you are working with kids off campus, check in with the organization concerning their rules and tips for working with children

As a last piece of advice, it is generally a good idea to train your volunteers before unleashing them into a room with a bunch of children. Half of the training deals with ensuring your volunteers have the technical knowledge to facilitate the activity.

The best way to do this is to have every volunteer do the activity themselves. This is tricky if you have not budgeted in the materials. The other half of training concerns how to best work with kids. Educational outreach is much different from tutoring. Outreach is not the time to show off how much you know about wind turbines, it's a place for you to facilitate the learning process.

Volunteers should be instructed to encourage kids, especially if they are struggling. Volunteers should never just do the project for the kid. Rather the volunteer should help answer questions and guide the kid through the engineering design process.

In addition to the above advice, here is a general hodgepodge of tasks that may or may not factor into your event planning process.

Logistics

- Estimating the number of attendees
- Scoping out rooms
- Reserving rooms
- Coordinating meetings
- Working with on-campus offices and faculty members
- Getting food for the event
- Organizing for transportation

Activities

- Brainstorming potential activities
- Developing activities
- Selecting activity leaders
- Preparing activity materials
- Creating activity instructions, presentations, etc.

Student Volunteers

- Recruiting volunteers
- Developing a training
- Getting volunteer t-shirts
- Creating a volunteer goodie bag

Budget

- Create an initial budget
- Contact companies about potential event sponsorship
- Applying to grants
- Submitting budget
- Buying materials

Recruitment & Registration

- Developing a social media presence
- Working with local nonprofits to advertise the event
- Creating and distributing flyers
- Creating a registration system
- Translating registration materials into Spanish or other languages
- Contacting schools about advertising the event

While this is only a coarse grain look at the tasks involved in planning a large outreach event, it should provide you with some food for thought. We hope this sets you out on the right foot for all your future K-12 outreach initiatives!

8.3 Campus Workshop Ideas

Outreach is good for the kids, but what about college students? Educating your peers is a huge component of ESW. ESW mostly does sustainability education through projects, but they require a large time commitment. What if I told you there was a way to educate students on sustainability and engineering and keep the time commitment to under two hours? Workshops, hosted by ESW members, are the perfect way to accomplish all of the above and more--workshops also provide a social space for your community to bond and a way of recruiting new members.

A workshop can take on many forms, but when we use the phrase workshop we mean a 1-2 hour interactive, hands-on event aimed at either building a physical thing or developing a skill.

ESW has developed a series of Build-A-Thing workshops. We have created all the materials you need in order to host one of these workshops at your chapter. The next section presents an overview of a few of these workshops to get you inspired.

Technical Workshops

Solar Cell Phone Charger
In this workshop, participants build their own personal solar powered cell phone charger using just a few parts. Participants will learn the basics of solar panels, how to solder, and brainstorm how to improve the design.

Upcycle a wine bottle
Drinking is commonplace is college, but what do you do with all your empty bottles? This workshop teaches you how to upscale your empty wine bottles into small plant holders.

Arduino Sensor Series
This three part series introduces students to how Arduino can be used to create sustainable devices. To help fund the workshops, you can ask students to pay when they sign up. The same Arduino board is used for all three workshops to save money, so students should attend all three workshops and then pick which device they like the best. Students first build a light sensor that turns off a lamp in the daylight. The second project entails a low-tech water usage monitor. Finally, students will design a low-cost air quality sensor.

Soft-Skills & Other Workshops

How to talk to a climate skeptic, ESW-Pitt
Pitt's student climate expert led a workshop to prepare students for battling with climate deniers, with a focus on half "climate science 101" and half "science communication 101". Some of the goals of the workshop included understanding the science of climate change, find ways to communicate science to different audience, prepare for common myths and rebuttals, and discuss why we should even care in the first place.

LCA Workshop, ESW-Pitt
Inspired by an event conducted by a professional at their school, ESW-Pitt decided to develop and host their own workshop to education students about Life Cycle Assessments (LCAs).

We here are ESW believe that workshops are one of the best ways to educate your peers about sustainability, so we have gone ahead and done the hard work for you! ESW's Build-A-Thing Workshops are a set of developed activities on our website available for download! Each workshop comes with a:

- lesson plan
- bill of materials
- presentation
- instructions
- discussion guide

We are currently piloting a solar cell phone charger and a wine bottle planter workshop. You can access these materials **here**!

8.4 Planning Workshops

Developing a workshop from scratch is very rewarding, but it involves a certain amount of insight and skill. You can not just throw people into a room, mix them with some materials, and say, “have at it!”. Facilitating a workshop is a bit like being a teacher. You need a lesson plan, an agenda, a powerpoint, and a handout at the very least. Below we present examples of workshop lesson plans--one for a technical skills workshop and one for developing soft skills.

Technical Workshops

One of the challenges with the technical, hands-on workshops is to balance “making a thing” with “engineering.” Following a bunch of steps to create a product is great, but it is not necessarily engineering. On the other hand, you can not fit the entire engineering design process into a one hour workshop--that is what we have projects for. Here we present a format for facilitating an educational and fun technical workshop. We will use the solar cell phone charger workshop from ESW’s Build-A-Thing series as an example.

The goals for the workshop are:

Build a solar powered USB charger
Learn technical and practical skills
Practice the engineering design process

The workshop followed the format below:

1. **Introduction**. As usual, introduce yourself and the goals for the workshop. Pretty simple.

2. **Pre-Survey**. Pass out a pre-survey to gauge the competency and skill in the room. These metrics are purely to help you gauge the effectiveness of the workshop, as you will do a post-survey. In this case, the pre-survey asked about experience with soldering, whether the person had heard of ESW before, and how comfortable they were with DIY projects.

3. **Safety**. Before you jump in to the good stuff, a quick overview of safety is important. In this case, a soldering 101 was given. Some workshops do not have a safety component, but it is always better to stretch your imagination and find something safety-wise to mention before diving into the activity. For the solar cell phone charger workshop, we ask facilitators to give a quick overview of the hazards of soldering.

4. **Build-A-Thing**. And now the good stuff. Pass out the handout/instructions, make sure everyone has the materials they need, and let them have at it. You can have a powerpoint with a walk-through of the instructions, but you should also encourage people to go at their own pace.

5. **Test the prototype**. In this case, everyone brought the solar charger outside and tested the voltage with a Voltmeter to ensure that the prototype would carry a charge. Attendees could then plug in their phones to ensure that their device could register a charge. If a prototype did not work, attendees could go back inside and try to fix their issue if enough time is allocated. If there is not enough time, attendees could troubleshoot their problem with the facilitator and then apply the fix on their own time.

6. **Discussion**. Because these workshops are a place to learn in addition to making, we highly encourage incorporating a discussion segment into the workshop. This is the perfect opportunity to have conversations about the intersection of sustainability and engineering. In the case of the solar charger, how could it be more portable? How could it accommodate different electronics? Have attendees brainstorm on whiteboards, post-it notes, on paper. Encourage them to test out their ideas outside of the workshop.

7. **Post-survey**. Before everyone leaves your workshop, make sure they fill out the post-survey. This is to assess how well your workshop was in educating people and to help you plan the next one. Some questions asked for this workshop include how comfortable students felt working with a soldering iron afterwards, how likely they were to attempt a DIY project, and what workshop they would want to see in the future.

8.4 Planning Workshops

Soft Skills Workshop

The ideal soft skills workshop should strive for a balance of lecture, discussion, and interaction. Getting those three components adjusted just right takes a lot of drafting. If you were to just stand at the front of a classroom and read off a PowerPoint, well, you would be giving a lecture, not a workshop. A bunch of people chatting in a room is not really a workshop either, though it is fun. A good workshop will find a way to combine these aspects into one educational format. To give you something to work off of, we present an example of a leadership workshop conducted at an ESW Annual Conference.

The following is the agenda for a workshop titled Leadership Beyond Delegation with the goals of:
Inspire and motivate leaders to implement leadership practices that promote the formation of high performance teams (HPT)
Provide specific actions leaders can take to engage members
Allow for attendees to brainstorm solutions to engagement problems

The workshop followed the format below:

1. **Pre Workshop Shenanigans**. Before getting into the meat of the workshop, the facilitator had to take care a few items of business. Introductions were handled, an overview of the workshop was presented, and the facilitator stated the goals of the workshop.

2. **Icebreaker & Intro**. A "paired listening" icebreaker was used to get people talking and active. The icebreaker was used as a springboard to begin a conversation about the workshop topic. Attendees called out themes from their conversations, which were collected on a white board. This list of themes about leadership was then used to launch into an introduction of the purpose of the workshop.

3. **Small Group Work**. Several leadership strategies were presented in the workshop. Each strategy was discussed in three components. First, the facilitator discussed the general theory behind the strategy. Then the leadership strategy was related to ESW through concrete examples. Finally, to make the workshop more interactive, the attendees worked together in small groups to discuss a posed question. The attendees were given five minutes to discuss in groups of 4-6 topics like why the are passionate about ESW, what is their secret superpower, and what they are most proud about their ESW chapter. In the workshop reviews, this discussion time was viewed as critical to the learning experience.

4. **Brainstorming**. If you plan everything right, there will be enough time for an informal question and answer section of your workshop. In the Leadership Beyond Delegation workshop, the facilitator asked attendees to call out issues in the chapters that they wanted to discuss in small groups. A list of six questions were developed to delve out to the six small groups. The groups were given 5 minutes to discuss strategies for overcoming these issues. Then each group presented their discussion to the larger group, and their words were captured in notes.

5. **Conclusion & Evaluation**. It is necessary to bring everyone back together and present once again the goals of the workshop. As English professors often preach, you need to tell them what you told them. Make sure everyone leaves knowing that they (hopefully) got out of the workshop. If you are interested in learning how to improve your workshop, pass out index cards. Ask attendees to write one thing they like on one side and one thing they would change on the other.

Paired Listening

Paired Listening is an icebreaker/facilitation technique where pairs of attendees must take turns responding to the facilitator's question. The twist is that while one person talks, the other person must remain completely silent. They are supposed to maintain eye contact and can only nod their head in agreement! The activity encourages people to talk without being interrupted!

8.4 Planning Workshops

The above was just one way of creating a workshop, but if you wanted to create a workshop from scratch, we have tips for that too. The following is one process for developing your very own workshop.

1. **Start with some goals**. Before you do anything else, start by figuring out what you want people to take away from your workshop. Ask yourself what you want people to say they learned from your workshop. Is it to learn how to use a piece of software? Is it to learn how solar panels work? Is it to brainstorm solutions to a problem? Once you establish the goals for you workshop, the planning process becomes a lot easier.

2. **Do your research**. You may know a lot about the subject of your workshop, but it never hurts to learn more. You can start by writing out everything you know and build the framework of your workshop. Identify gaps in knowledge and seek out information by reading books, finding web articles, and bothering your grad school friends and professors.

3. **Create an agenda**. This cannot be stressed enough. Start with an agenda. Use the example formats from above as a starting place, then tweak them to your liking.

4. **Determine what resources you need**. While the agenda is a universal component of practically any event or meeting, the other materials needed are not always so obvious. What will the attendees need in order to complete the activity? Instruction handouts are commonly used, as are powerpoint presentations.

4. **Create resources**. After you have created your agenda, then you can begin creating your additional materials. Make a powerpoint to communicate your ideas, but do not just copy your agenda into your power point. Think about what handouts or instructions attendees might need. Maybe you want your attendees to read a quick article to get a conversation flowing.

Ideation

Planning a workshop is a fairly straightforward process. But getting to that point is half the battle! Coming up with an idea for a workshop is no easy feat. How can you make a workshop that will teach people both about sustainability *and* engineering? Here we will take some time to explain some methods for generation ideas.

Starting from Scratch

If you want to start from the very beginning and create your own totally unique workshop, there are a few things to get your brain in gear. As shown in the image on the left, you can engage in a brain dump. All you need is a pen and some paper. Start by writing out some categories. For our purposes, starting with different areas of sustainability is useful. The main ones are transportation, water, energy, food, cities, and buildings. From there you can start writing out any idea that pops into your head, no matter or "bad" or strange. Brain-

Excerpt from a notebook showing the ideation process.

map format to link like ideas, draw connections, or branch off from existing ideas.

Once you have a well marked up piece of paper, you can go through and star promising ideas. Maybe one idea will send you into another brainstorming frenzy. Maybe you came up with an idea you really want to flesh out. Either way, you have a lot of starting points!

8.5 Campus Events

Apart from workshops, there are less time-intensive, planning-intensive events you can host to educate your campus about sustainability. We have a bunch of examples to share with you!

GreenTube

ESW-Smith

Every few weeks ESW-Smith invites students to convene for friendly discussion about a topical sustainability issue. The President usually facilitates the discussion and comes prepared with a short presentation and some follow-up questions. Topics in the past have included discussing the August 2015 Clean Power Plan Act, a large on-campus lecture about climate change, the People's Climate March, and a video critiquing the definition of sustainability.

Doucumentary Showing

ESW-UC Denver

A couple years a go, UCDenver did a showing of Chasing Ice, a documentary about James Balog and his quest to photograph climate change. After the film the chapter had Adam LeWinter, chief engineer featured in the film who working on setting up and weatherproofing the time lapse cameras stationed for months at a time, come and a talk about his experiences with filming, engineering in the cold, how the project has changed his life, and witnessing a chunk of ice the size of lower Manhattan fall off of a glacier.

Speaker Series

ESW-Cornell

In 2014 ESW-Cornell hosted two guest lecturers in the fall semester. They invited Bruce Abbott of Abbott Lund-Hansen, a combined heat and power firm, and Marguerite Wells of the Black Oak Wind Farm Project, a company that aims to provide wind power to New York.

The speaker series was a great way to let ESW members network with professionals!

Food Week

ESW-UT

Stemming from the annual Food Day event at UT-Austin, ESW-UT created Food Week in collaboration with other orgs. The week encompasses a variety of events aimed at educating college peers about food and agriculture. Events included a workshops on how to cook and eat with local ingredients, eat healthily, and cook based on the season.

8.5 Campus Events

Hydroponics Workshop

ESW-Smith

During January, ESW-Smith took advantage of an opportunity that lets students propose and teach their own classes. Members developed a five day course to teach non-engineering majors, students and adults alike, about the design process through the design and build of a personal hydroponics system. Attendees brought 2L bottles which were re-purposed into plant holders for the hydroponics systems. The attendees were then challenges with improving their design beyond the course.

Seminars
Invite university professors, graduate students, speakers from non-governmental organizations, returned ESW overseas volunteers, or experts in a field that relates to ESW to give a talk.

Discussion Series
Many chapters choose to opt for a sustainability discussion series. It is an excellent way to incorporate the education aspect of ESW's mission into your chapter and develop a strong sense of community among your members. Ask board members to take turns presenting on a topic within sustainability and engineering. Engage your general body by having a "call for proposals" and letting them facilitate one of these meetings.

Project Fairs
Organize a poster session and/or presentations by groups doing work that is relevant to ESW. Advertise the event within your university and the surrounding community. On-campus project fairs during student orientations and parent visiting weekends can attract new students to your chapter

Guest Speaker Series
String together a series of lectures (formal or informal) and tie them into a series. You may consider having a common theme run through the lectures, or seek support from the university to provide course credit to students.

Panels
Invite several speakers who are experts in a given area to speak at your university and organize a panel in which these experts discuss or debate a certain subject. Prepare questions for the panelists beforehand and find a chairperson who is knowledgeable in the topic of discussion so that she/he can effectively moderate and guide the panel.

Movie Nights
Get together to watch a movie related to sustainability and/or development & technology. Hold a discussion afterwards. Some possible films include Baraka; Empty Oceans, Empty Nets; Save Our Lands, Save Our Towns; An Inconvenient Truth.

9.0 Build

Community & Social Events

9.1 Social Events

We asked chapter leaders across the country the same question: "What one piece of advice would you give to another chapter leader?" Time and time again the answer related back to building community. Connor Brown, President of ESW-Buffalo advised to "make it fun." Troy Salavtore, President of ESW-Pitt, urged leaders to "make friends early and build trusting relationships." A wise ESW-HQ volunteer once said:

> *"People come for the name and stay for the community." What he so poignantly stated is that community is the glue that keeps ESW functioning.*

But creating community is difficult. Community is created by both more formal, organized social events and by informal, small interactions with your members. It takes both to build a strong tight-knit group in your org. In this chapter we discuss a variety of ways of creating community through informal social events and general body meetings.

We here at ESW-HQ have heard many chapters lament that no one shows up to their social events. We have also heard that chapters are trying to host more social events to build community. So what is the answer? Which comes first? Building a community to host a social event or holding a social event to build a community?

The process of building community is amorphous. We can't give you a linear, step by step process for building community, but we can give you some leadership tools to build community.

Hosting a social event is just one tool you as a leader can use to create community among your chapter. A social event is a broad term that encompasses anything you do as a chapter that isn't related to the technical side of things/projects. Social events bring people together in informal spaces to bond, create friendships, and take a well-deserved break from all your hard work. Here we highlight some unique social events from ESW chapters

Social Event Ideas

- movie night
- getting drinks
- preparing for a tabling event together
- having an informal meeting over lunch or dinner
- late night work session
- volunteering as a club
- Fundamentals of Engineering jeopardy review session
- finals study break

ESW-University of Buffalo during their winter camping trip.

9.1 Social Events

Wind Farm Tour
ESW University of Pittsburgh

Field trips were always the best days in elementary school. why not recreate that in college? That's exactly what ESW-Pitt does. Every year ESW-Pitt teams up with ESW-Penn State for an adventure to a local wind farm.

Together the two chapters take tour of the Allegheny Wind Farm in Johnstown, PA. The tour has been a great chance for ESW members to see first-hand what wind energy actually looks, sounds, and feels like.

But more importantly, the joint field trip allows these two chapters actually get together and see each other.

"[The] experience was a great way to meet the Pitt chapter so when we reunited at the conference we were already friends."

-Nichole Heil

Kayak Cleanup
ESW UT Austin

Every semester, ESW University of Texas at Austin (ESW-UT) helps a local non-profit, Keep Austin Beautiful, clean up a lake in the major recreational area of downtown Austin with about 15 members participating each time. Members go out in kayaks and scoop up trash.

One ESW member once won an award from Keep Austin Beautiful for picking up the most unique trash item: she uncovered a bike from the water!

Engineers for a Slacking World
ESW University of Pittsburgh

For a more unique example, ESW-Pitt hosted a slacklining event. It was pretty simple—all they had to do was throw up a slack line between two trees. The informal atmosphere, and the intrigue of attempting such a weird hobby, helped ESW-Pitt recruit more members. By being leaving the engineering building, they were also able to increase their presence on campus.

9.2 Kicking Off the Semester

Using the energy, excitement, and newness at the beginning of the semester is one of the easiest ways to incorporate a social into your ESW planning. We talked about intro General Body Meetings in Chapter X, but here we will focus exclusively on bonding events for the beginning of the semester. First we will go over the importance of officer bonding at the beginning of a new year and then talk about general membership bonding.

Officer Bonding

Your officers, or your eBoard, will be working together as a core group over the course of the year, so it is generally a good idea if they all like each other. Dedicating some time to letting your team have some fun together is a great leadership tactic for ensuring your eBoard will work well together. The possibilities for eBoard bonding are endless, and we have seen everything from as simple as an eBoard dinner to a full on challenge ropes course. The key here is to let your officers come together in an informal space to get to know each other. You may want to combine this with more formal activities such as leadership training, team strengths analyses, and goal setting, so long as there is time for the team to have fun.

Kick off the Fall Semester

One of the most common frustrations of a Chapter Leader we hear goes something like this: "We always get a lot of students signed up at the beginning of the year and a pretty good turnout at our first meeting, but then we experience a huge cut off in attendance." There is no one clear cut solution to this problem, but one strategy is to throw out a social event immediately after your first meeting—and we mean immediately after. After your first intro meeting, tell everyone you are going downtown for ice cream. Or head out for a picnic. Or go out to a documentary screening. You get the idea. You are killing two birds with one stone here. First, you are keeping the momentum from your first meeting and keeping people engaged with ESW. Second, you are starting to build community among your members.

Example Board Retreat Agenda

Intro & Overview (5 min)
- name, year, position
- board retreat goals
- agenda overview

Icebreaker (10 min)
- oreo challenge
- find a partner and go!

State of the Org Address (15 min)
- Present: what have we done well?
- Feedback: What do YOU think we've done well?
- Present: current plans for the semester

Goal Setting (30 min)
- pass out sticky notes
- 5 min brain dump around projects, education, community
- +1 ideas we like
- Pick 1-2 in each category to focus on

Event Planning (10 min)
- Present: Review calendar of events
- Feedback: Anything we should add, change, remove?

Projects (10 min)
- Present: Current two idea for projects
- Feedback: Any project ideas to add to the list?

Review & Adjourn (1 min)

Kick-off spring semester

Just like "sophomore slump," the spring semester can sometimes be real sluggish for some chapters. The energy of the fall semester just seems to die out. That is why it is the perfect time to hold another social event. The focus of this event is less on getting to know each other and more on restarting that ESW momentum. So choose something that gets people excited about the org. Take a tour of a wind farm like ESW-Pitt to get people excited about renewable energy or visit a science museum to pump people up for education outreach initiatives.

9.3 General Body Meetings

In ESW, a general body meeting, or GBM, is an opportunity to get all your members from different parts of the org together in the same space. Often times different project groups, event planning teams, and executives officers branch off during the course of the year. People can end up feeling isolated from the larger chapter. Hosting GBMs are a great way of building community by getting in some face to face interaction with everyone in the org.

There are a lot of ways to run your GBMs, so we will present two case studies: one from a large chapter, UT-Austin, and one from a small chapter, Smith College.

Both use their GBMs as a time to unify the org, but fill the time with different content. UT-Austin uses the time to get in some professional development and share updates with different teams. Smith College uses their GBM time as the main way of getting projects done.

A Look at *UT-Austin*

Members at ESW-UT gather two to three times a semester for food, updates, a corporate speaker, and fun.

Adhering to the golden rule of student clubs, food is offered for attendees. Then to kick off the meeting, a corporate speaker from an engineering company presents. Not only is this an engaging way to begin a meeting, but it provides a great networking opportunity for members.

But the real kicker is this: the speaker pays the chapter anywhere from $300 to $500 to speak at the GBM. ESW-UT makes money just by hosting their GBMs!

The GBM wraps up with project updates and any announcements of upcoming events. Overall, the GBM is a casual space for members that usually work separately to come together and chat.

At ESW-UT, members are usually on separate project teams, so the GBM is the only space where they can all come together—and that is necessary for building community.

9.4 Leading a General Body Meeting

A Look at *Smith College*

Smith faces a lot of unique challenges as a chapter: they are a small, liberal arts womens college. Through a trial and error process, ESW-Smith decided to merge projects and GBMS into a hybrid meeting. ESW-Smith meets every two weeks for two hours in the afternoon. The first 15-30 minutes are spent going over project updates and announcements. The President also shares a video or story that relates to sustainability and leads a short discussion with the members. After this, the project team break up in the meeting space to work on the project. Project leaders can assign work between meeting times or even set up additional meetings, but the bulk of the project is done during these hybrid GBMs. This style of GBM works well when you have a small group of people working on a small number of project. It is also great for building a strong, tight-knit community.

Okay so you have to stand up in front of a bunch of people and get them excited about ESW. This may be a cake walk for some of you, but for others it can be a nightmare. In this section we will talk about the skills and methods needed to lead an awesome GBM.

General Body Meetings are a different style of facilitation than a board or project meeting - you are leading a large group of people, and it's unlikely that there will be as much time for everyone to talk to everyone. The difference is similar to the changes between a seminar-style class and a lecture. Just like a lecture, GBMs can get very boring very quickly.

The key to combating boredom is breaking up the GBM with different activities. Invite a corporate speaker like ESW-UT Austin. Have members break out into small groups to brainstorm potential events. Ask project groups to present. Rotating between presenting and facilitating is a great way to keep people from spacing out during your GBMs.

More than any other meeting, you need to be enthusiastic when leading GBMs. If new members show up and you go through a series of events in a monotone, everyone will be bored and no one will come to the events, regardless of how exciting they are. Alternatively, if you get up are talk passionately about an upcoming talk, a service event, and the ESW conference, people will learn about new topics, volunteer, and make an effort to get to the conference (which will pay back to the chapter).

Be selective about what you pitch at GBMs – other groups will often ask you to tell people about their events, but if you can't be excited about the topic and its relevance for your members, save five minutes, leave it out of the meeting, and maybe put it in an email instead.

9.5 Leadership Strategies for Building Community

Large formal events are great, but another common struggle chapters have faced is that no one wants to attend their social events. This goes back to the question posed at the beginning of this chapter. Creating community is sort of a chicken or the egg phenomena: you need hold social events and employ leadership strategies to create community. And even then we cannot present a step by step plan for building community in your chapter. So try out some social events and try out some of these leadership strategies presented in this section.

Remember what people said in meetings, remind them of it the next time you chat. During ESW-Smith's sustainability discussion series, the President would take notes of what people would say during discussions. A day or two later the President would email the attendees to expand upon their comment—maybe to question what they said, maybe to agree, maybe to share an article that shared their point. It showed that the President was listening and cared about what was being said.

Say hi. ESW does not stop existing when a meeting ends! The community is still there in the hallways, in the dining halls, in the dorms. If you see a member, make sure you say hi, or at least acknowledge their presence. If you have the time, stop and chat—it does not have to be about ESW!

Be friends on social media and interact with them. If anything, something like wishing a member happy birthday on Facebook is a small and easy way of building community in your chapter. It is these small interactions in informal spaces that will make your chapter that much closer.

Know their academic interests. If you come across an article that relates to their studies or hobbies, share it with them. This is where being friends on Facebook is a huge help. Not only are you participating in the "Education" part of ESW's mission by sharing articles about sustainability and engineering, but you are engaging in conversation outside of ESW meeting spaces.

ESW-University of Buffalo at the ESW Annual Conference, 2015

Host informal work sessions to bring people together. Technically it is an event, yes, but this is an initiative usually led by the President. Set aside an hour or two every week for an ESW work session. People could do ESW work or simply do their homework. It does not matter so long as people are sharing a space together. Bringing food will ensure that you get people to show up.

Give small thanks. You do not have to have a huge formal awards banquet to let your members know that you are proud of them. If someone in your team has done something well, tap them on the shoulder and let them know. Your congratulations could be as small as a quick email. Or you could make a Facebook post publicly acknowledging their hard work. Get creative with it!

Make work fun. It is okay to mix work and fun, as long as you understand how to strike a balance. We recommend dedicating 5 minutes to each meeting to a fun opening question. You can probably think of other ways to make your meetings and work more exciting!

Part 4: Extras

10.0 Getting Money

Fundraising & Grants

10.1 Building Relationships

10.2 Fundraising

10.3 Sponsor and Fund Management

10.1 Building Relationships

Building things is rarely free. Travel is almost never free. Tabling materials are never free. A strong ESW chapter often needs to raise money to pay for project or educational materials, attend conferences, or help promote its actions and build local community. Similarly, a chapter rarely has all the things it needs to do amazing projects - a lack of space, a lack of invested stakeholders, or a lack of expertise can all decrease impacts. Building external relationships can result in funds, but can also provide project partners, mentors, or unsuspected advocates and visibility. Relationship building should happen before, during, and after your fundraising process. These two areas are undeniably hard, but they're also the keys to success for any organization, including your chapter.

Building Relationships

The verb here is important: relationships are built, rather than appearing fully formed. They take time to create, and need maintenance to be useful. Often, you'll meet someone at a campus or community event, tell them that you work with an ESW chapter (have your pitch practiced!), and talk about potential ideas. If you need to create new partnerships without existing contacts, email the person in charge to tell them a little about ESW, describe what your chapter works on, and see if they'd be interested in working together. For finding new donors or sponsors, see Section 8.2 on Fundraising. Regardless of how you meet, there are some common pieces to creating strong relationships.

Identify and Track your Donor Base

Before asking for money or materials, you need to identify your donor base – your network of potential supporters. There may be local organizations or chapters in your area with an interest in public service, sustainability, international development, or supporting students. Examples include local Rotary Club chapters, green professional networking events (Green Drinks), ASHA for education (India), etc. For organizations, find out if you can make a presentation or announcement at their next meeting.

Whichever set of individuals and organizations you identify, make sure to keep track of them. This can be as simple as a spreadsheet with dates of donations and notes on preferences and interests, or as complicated as a full database with a robust user interface. As an example, ESW-National uses CiviCRM, a free and open source system, to track all of our constituents and automatically record online donations for future reference. That's probably too much for your chapter, but if your chapter does large projects on a regular – or wants to – you'll need a solid system to avoid losing track of who you've contacted, who's donated in the past, and log potential new leads.

Create Marketing Materials

For many partners, particularly those that you're actively reaching out to, having some well-made materials that describe and showcase your chapter, project, or event is essential. Whether digital or physical, marketing materials such as a trifold pamphlet or sponsorship brochure succinctly describe what you're about and/or why the other entity should work with you or give you money, all in a visually appealing form that they can read on their own time. In a full development process, some members of the team will build up the donor base or find potential partners while others develop or update these materials. Content and appearance are equally important. Whenever you present materials to an outside individual or organization, you'll be affecting their opinion of ESW as a whole, even if your materials clearly

10.1 Building Relationships

identify you as a chapter (as they should). We want your materials to look awesome and represent us well, so please ask us to review drafts of whatever you create – we're happy to do so! You can see examples of materials that ESW-HQ and various chapters have used in the online Guidance Materials.

Content

The amount of text and images you need will vary depending on the goal and size of the initiative. For general interest materials, keep everything on one sheet of paper. For large projects or events, your sponsorship brochure should be 6-10 pages long. Regardless of size, focus on brevity and clarity, and remember that pictures are worth 1000 words.

You should make sure you include the following information:

- Basic information about ESW as an organization – see our About Us pages for examples
- Brief description of your chapter's focus areas and key projects. For sponsorship brochures, this could be combined with general ESW info as part of an intro letter from the project leader.
- How many students are involved, and potentially some statistics on diversity – are many departments represented? Is there a good gender mix?
- Contact information—how can they contact you and whom should they contact?
- For Sponsorship Brochures:
- Explanation of the event/ initiative for which you need funding. Be as precise as possible – saying that you will be building a 3 kW solar array for a local school is much better than saying that your project will work with local schools on renewable energy projects.
- Budget – how much money do you need, and what categories (e.g. materials, labor, travel, food, etc.) will it go towards? A simple table is a great choice here.
- Sponsor Benefits – what specific things will you provide to people that give you money? Common options include logo space on whatever you build or on a project website, recognition in press releases, media coverage, or central conference events, regular project updates, opportunities to tour, interact with, or recruit the students doing the design or construction, and workshop space at conferences. If you're searching for ideas, look at the perks from similar campaigns on crowd-funding sites such as Kickstarter or IndieGoGo.
- List of other supporters— if you have already secured funding from your university or other companies, mention this; companies like to support initiatives that are successful and if they see that other companies are supporting your cause, they will be more likely to do so as well

Draft up text, put it in an outline, and then have someone else read it. Spend at least 24 hours away from the material before coming back to edit based on their comments. Always try to find ways to say the same things with fewer words, as you'll either have more space for more information or a larger font size that will be easier to read. Expect to go through at least three rounds of review before the document text is ready for broader use.

Appearance

Most companies or individuals will look at your materials for about 30 seconds before deciding that they are not interested, or that they want to find out more about your initiative. Whatever you present – digital or print – must be attractive and the important information must be easy to find. Typos, grammatical errors, or awkward layout can make the difference between gaining sponsorship and wasting time and effort on a sponsorship package that gets thrown in the recycling bin.

The process of making beautiful documents is much easier with branding guidelines, and you should read through ESW's Branding Center. We've developed a set of colors, fonts, and basic templates that work well together, as well as tips on how to use them. Build design time into your schedule, particularly the first time you make a document. Have several people edit the package, have someone work on the layout, and do not hesitate to contact ESW-National for feedback.

10.1 Building Relationships

One additional resource that you should talk to for sponsorship brochures is your local development department, either for engineering in particular or the school overall. In many cases, they may be willing to help you with design, distribution, or both. Helping you lets them promote interesting work that their students are doing to alums or corporate contacts while tracking who is asking these entities for funds (see Section 8.2.3). You can get very professional work for free, but make sure to allot an extra month for initial meetings and design time.

Manage Your Relationships

Once you've connected with partners, donors, or sponsors, you need to stay in touch and keep the relationship active for maximum effectiveness. This can seem time-intensive, but a good spreadsheet or database and some quick habits can make it much easier. Maintained relationships lead to regular or repeat donations, new and bigger project ideas, and broader exposure as people tell others about what you're doing. A few suggestions:

Send Quick Relevant Updates

If you get featured in some media source - school newspaper or national news - send a quick link and note to any relevant contacts. The same applies if you hit a major project milestone, like an initial test or prototype, and have a few photos in an online album, or you have a public event. It doesn't have to be much to remind them that they are involved in something that is having real-world impacts. Do this every few weeks if possible, but not more than that. Remember to post your updates on social media as well.

Send a Quarterly Circular

Once every three months (possibly skipping summer), put together a 1-2 page PDF with key photos and a recap of what the chapter has been doing. This includes project updates, educational events, and safe-for-work social pictures. You might choose to focus on a specific project or individual. As with all materials, the first instance will be slow because you'll need to build a template, but future issues will be faster, and will slowly provide a great archive of what you've accomplished. Send this digitally to your whole base, including ESW-National – we love getting these. ESW-Northwestern and ESW-RPI have some great examples if you need inspiration.

Have a Stakeholder Banquet

Twice a year - once around Thanksgiving and once in April/May – invite all the stakeholders in your projects to an afternoon or evening event to share food and project updates. This should include all project partners and major funders, and you should plan on spending at least $20/person. While it's an investment of both money and planning time, being able to give some updates in person and get some suggestions on all projects from all partners is invaluable. Stakeholders often enjoy meeting each other too! ESW-UCSD is a great group to talk to if you have questions.

10.2 Fundraising

Fundraising (or "How to get other people to give you their money") comes in a huge range of shapes and styles. One of the most important initial questions is how much money you need. For amounts up to ~$500, local fundraisers - food sales, restaurant nights, donation drives – will likely suffice. Up to ~$2500, working with academic departments, small companies, or campus grants is a good approach. Above $2500 you'll need to develop a more robust development team to find corporate sponsors or apply for larger grants from programs like the EPA's P3 competition.

University Grants

The easiest place to find funding will likely be within your college or university. See if your university has a fundraising strategist who can help identify sources and ideas for student groups supported by the university. Remember, a strong Public Relations campaign that engages professors and administrators throughout the year will build those relationships that may eventually lead to funding support. Also, make sure to highlight positive initiatives undertaken by your chapter – they reflect well on your university, which makes administrators even more willing to support your chapter.

Funding from departments

The College of Engineering may support projects and sponsor or co-sponsor speakers. Non-engineering departments such as the Departments of International Relations, Political Science, etc. might also sponsor specific events or speakers that are of interest to their students. Departments and schools are particularly good targets for event support.

Funding from student societies and organizations

Every university has a student society, assembly, and/or government and likely has engineering societies and other similar student organizations. Many of these organizations have money within their budget to support student initiatives. You will want to find out if there are deadlines for applying for funding from these organizations and learn about the criteria that you must meet to obtain funding.

Campus Grants

You may be amazed at the number of internal grants available at your school when you go looking for them. There are likely grants available to bring in guest speakers, support project teams, or to sponsor workshops, mini-conferences etc. A combination of searching your university website and talking to contacts throughout the university will help you to learn of these types of funding, and which ones would be useful for your chapter.

Funding from Alumni

Alumni are often excited to support new initiatives and engage with students from their alma mater. Similarly, your university is always looking for new ways to get alumni excited about supporting the university and students. Your best bet is talk to the Alumni Relations office within your institution or engr. school to tell them about your chapter and some of the initiatives that you are undertaking. Ask them if they think alumni members might be interested in these initiatives and how you might get in touch with them. Remember that alumni not only have financial wealth, but experiential wealth as well, providing important contacts and networks. You should be open to the many ways in which alumni might become involved with your chapter.

Local Fundraising

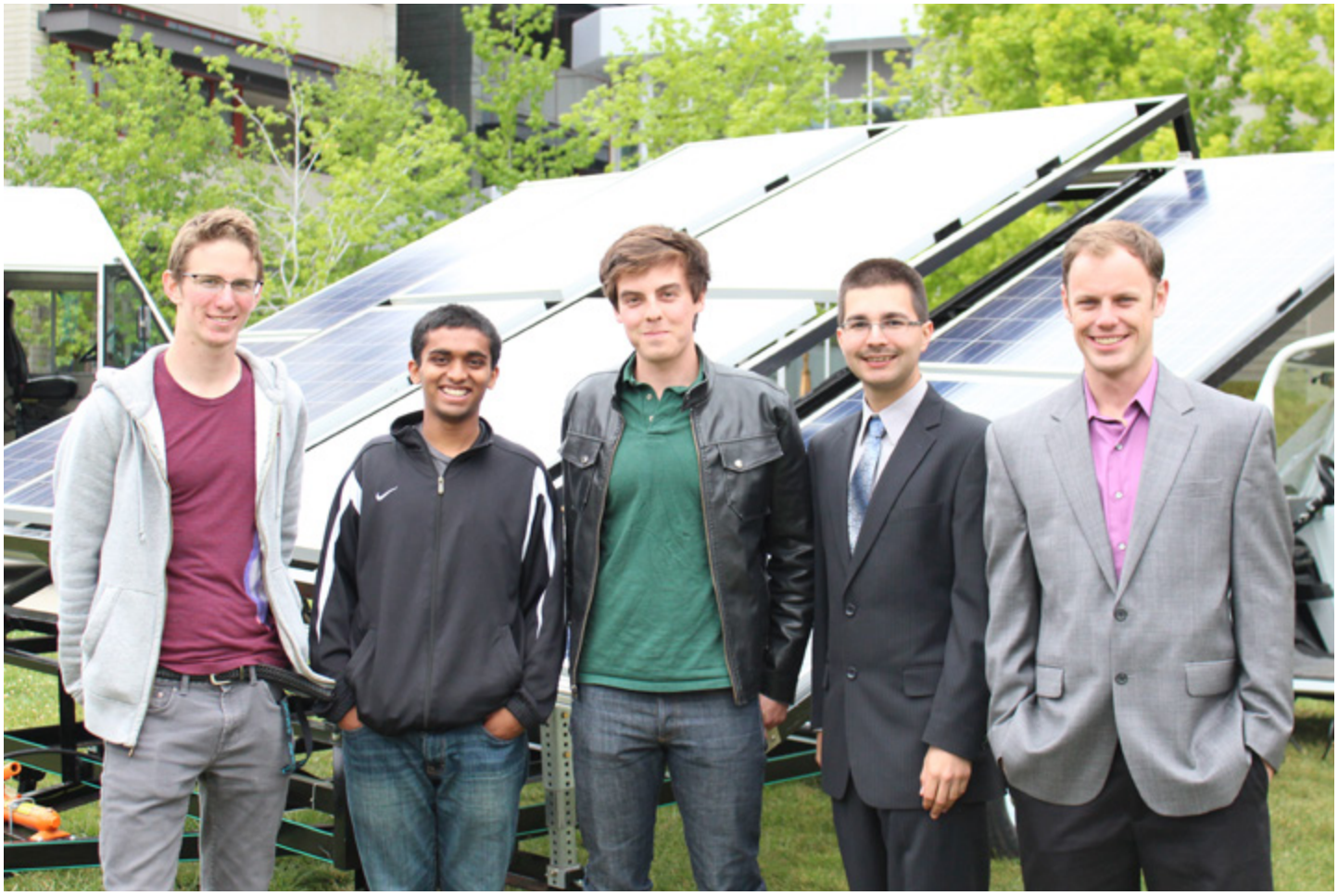
Donations come from friends, family, church members, classmates, passersby, professors, and anyone else you can think of. The challenging part is not being afraid to ask anyone and everyone to support your cause. There are different ways to support each type of potential donor, but in the end, everyone gets asked. They won't give if you don't explicitly ask them.

Fundraising Events

If you are looking to raise funds on the order of a couple hundred dollars (at the most), consider hosting a fundraising event. The planning involved could range from a few hours to several weeks. Here we present a few options for fundraising events: ESW-TTU hosts a gaming tournament every year

10.2 Fundraising

- Selling flowers (ESW-UCSD)
- Car wash (ESW-Miami Dade)
- Bake sale—extra points if you use a solar oven!
- Dinner/banquet with charged admission
- Auction—solicit members and professors to donate items
- Working with a local restaurant to earn a percentage of sales for a specific date/time.



Personal Solicitation—Making the Ask

Having a personal connection with someone first will always lead to a more successful solicitation. Ask for support from someone who has recently attended one of your chapter events. Or, you can send personalized mass solicitations to event attendees (and other contacts) via email or direct mail (snail mail). In written solicitations, always include the recipient's name, make sure it is spelled correctly, and let them know what exactly you need. Keep letters short – one page is ideal while two pages is acceptable. You want to capture the interest of the donor without losing them by the end of the letter or worse, having them put down the letter because it's too long or too vague.

Large Grants

Grants can provide a large amount of money without the same networking process as corporate sponsorship or finding individual donors. However, they often have much longer timeframes for applications, stronger reporting requirements, and require your team to know how to write grant applications – something people make careers out of. There are a huge variety of materials available on how to write grants, and you can find some links at the end of this chapter. Finding grants to apply for can be hard. The first place to look is locally – foundations that are specific to your city or region. If you're working with a local organization, they may be able to provide suggestions from their experience. The second place is at

well-established student-focused programs. These include the EPA's P3 program, which is open every fall, the NCIIA's programs for entrepreneurial ideas, which has many opportunities every year, and the Clinton Global Initiative – University, which is open every winter. ESW chapters have received all of these awards in the past. The third place you should look is ESW-HQ's Opportunities Bank, which lists grant programs and contests we come across. Some of these are annual, some are a single time, and they range from very specific topics to broad international opportunities. At any time in this process, feel free to contact us for help and ideas, since we may have recommendations for your specific project.

Corporate Sponsors

Working with local, or sometimes national companies is a great way to secure large sums of money for projects or large campus events (such as Regional Conferences). Companies are often looking for potential new employees, have funds allocated for community projects, or want to support their local universities. Plus, technical companies are in a good market - there's a large pool of potential funds available, particularly with an increasing awareness of sustainability.

However, before you approach companies, you need to consider who else may be talking to them or looking for money. As members of an ESW chapter, companies will treat you as part of ESW and part of your school. They may budget their giving for a specific entity, such that if your chapter receives a $5,000 grant, the school receives $5,000 less. On a related note, companies can feel overwhelmed or confused if several different arms of what is perceived as the same organization contact them requesting funds – such as several chapters and ESW-HQ all approaching the same company independently. They may give to one, a few, or none of them.

The solution to both of these problems is communication. Whenever you approach a company (or several) that your school might have a relationship with, you should talk to your local development office. When you approach a regional or national company that might be appealing to other chapters or ESW-HQ, you should talk to our development department. In both cases, this is partly so we can coordinate approaches, and partly so we can help each other. ESW-HQ may have contacts for you to talk to at a national firm that have been waiting for the right student project to fund. We might also know of other similar projects, and be able to approach the company to support a larger initiative at several chapters. Local companies - ones that only have a presence in your area, not branches of larger entities – are less likely to need coordination, but when in doubt, chat with us first in case we can help, particularly since we'll be reviewing your marketing materials for you anyway (right?).

10.3 Fundraising–Sponsorship Outreach

Actively Seeking Sponsorship

Once you have a sponsorship package, you are ready to start distributing it. The following steps are recommended when seeking sponsorship:

1. Initial phone call

Start by calling the company to very briefly introduce yourself and your initiative and ask if you can send a sponsorship package to the company. If you have a contact at the company already, they may be in a position to make/push a decision for you. Otherwise, they might direct you to a person to call (in this case you can say "Mike Smith, Vice President of your company recommended that I get in touch with you to tell you about [your initiative]"). Otherwise, check on the Internet or call the company's head office to find out the name and title of the person who deals with sponsorship and ask to speak with him or her. This is usually a Recruiting or Human Resources person. It is a good idea to plan beforehand what you will say during this first phone call.

2. Send sponsorship package

Following the phone conversation, send out the sponsorship package as soon as you can so that your contact does not forget about you. Consider enclosing a short cover letter that makes reference to your phone conversation ("following our phone conversation on September 15, I am sending you a sponsorship package for [name of initiative here]"). If you have a contact within the company, mention this again in the cover letter ("Mike Smith, Vice President of [company name here] thought that this initiative might be of particular interest to you because…") and potentially CC this person on the letter. The cover letter should be personalized in some way as well. For instance, if the company recruits at your university, you may wish to add a few sentences such as "Our chapter believes that this event might be of particular interest to [company name] because many [university name here] students will be in attendance at the event. This will be a wonderful opportunity to spread your name to potential employees and show them that your company believes in supporting socially responsible initiatives such as ours."

3. Follow up again after the sponsorship package

Estimate how long the package will take to arrive at the company. Two or three days after you think it will arrive, phone your contact to make sure that they have received the package and ask if they have any questions at this time. Likely they will not have yet looked at the package but this will help to refresh their memory and remind them about your initiative. Ask them if they would like you to call back in a week's time to answer any questions and mention that you would be happy to meet with them in person to go over some details if they wish. You will likely keep phoning back and forth until you obtain a yes or a no answer.

4. Follow up calls

When a company is interested in sponsoring an event, they will likely ask you some tough questions to make sure that it is truly worthwhile (e.g. What will be the long term benefits of the initiative? How will we as a company benefit from sponsoring this initiative? Are there ways for our employees to offer non-financial support to the cause?) Anticipate these questions and have answers for them already prepared. You won't be able to anticipate every question, but thinking ahead will help you to more easily answer unexpected questions. Also be prepared to provide additional information regarding the initiative.

5. Giving a presentation

If you are requesting funding for a big initiative, such as a conference or a project, you may need to create a PowerPoint presentation to deliver to people within the company. You will want to practice the presentation and become very comfortable with it. Dress appropriately for the presentation and remember at all times why this initiative is so important. As long as you are convinced that it is a worthy cause then you will be able to convince the company of the same thing. For advice and suggestions on sponsorship presentations, you may wish to contact the ESW-HQ.

10.4 Managing Sponsors and Funds

Sponsor Responses

When a Sponsor Says YES

The first thing to do when a company agrees to sponsor your initiative is to send a formal letter thanking them for their kind support. The chapter should also keep a copy of this letter. Through the chapter's correspondence with the company, the terms and restrictions of the funding (i.e., if the funding is for a specific project or event) should be clearly outlined for the chapter. Any benefits that a corporation receives (e.g., use of company name or logo on materials) should also be clearly stated. All correspondence should be documented, whether it is a formal letter or an email.

When a Sponsor Says NO

It is important to maintain a friendly relationship with any individual or company that you have approached for sponsorship; even if they don't sponsor you the first time you approach them, they may sponsor you in the future. Companies and corporations are approached by too many organizations to say yes to all of them; don't take it personally but rather learn from the experience. If possible, ask why you did not obtain funding: had they already allocated their budget to other causes, do they focus on other types of initiatives, or was it for some other reason? Learn from their feedback. Always write them a final letter thanking them for their time and consideration of your funding request and say that you hope that they might become involved in one of your initiatives in the future.

Fund Management 101

When you raise funds from small fundraisers or individual donations, they may not expect much back, but you want to make sure you're spending their money wisely. Grants and corporate sponsorships generally come with strings, and generally the strings are related to reporting - the organization that gave you the money will want to know how you spent it, and whether those expenditures were in line with their program goals. Managing funds for the chapter and several projects requires a good bookkeeping system to track where money is spent – often more than a basic student org system or bank account can provide.

A specific spreadsheet page for each project is a good start, and if your chapter is regularly handling grants you should talk to your faculty adviser about getting assistance from the university on more advanced accounting help. You will also want to be diligent in tracking major project milestones for intermediate or final reports – and never forget to take some pictures. Anyone who gives out grants will be able to use the pictures in their own promotional material, and you might find your work being promoted simply because you did a good job of visually documenting it. Expect to turn in a final report documenting total spending, project outcomes, and any measurable impacts.

11.0 Event Planning

Planning & Running Campus Events

11.1 The Basics of Event Planning

Halfway into your workshop on hydraulic arms a student group discovers that there are not enough dowels for every team. What went wrong? Programming and event planning often entails more work than meets the surface, and without practice the process can seem a little daunting. This section presents an overview of the steps and tactics you can take to ensure a successful event or program.

Before we jump into the event planning process, here are some general tips to get you started.

Plan your schedule a semester in advance. Some schools may require that you plan your events in advance for budgeting purpose, but it is a good practice regardless of your school's policy. The earlier you start planning the more likely your event will be a success. When you plan early, you are likely to claim first dibs on the room you need, create a series of well-timed programs, and pay more attention to the details of your program.

Make it manageable. In a perfect world, we could pursue every great idea that popped into our minds. When planning, you must be honest with yourself and your team. Think about your limiting factors. Do you have enough active officers to assist in planning? Are students showing up to your events? How much time will you actually have during the semester to accomplish your goals? Are students too overwhelmed with their coursework to participate in many events a semester? It is better to host a few well planned, strong events than many rushed, last-minute events?.

Be ok with "failure." It is truly okay to "fail." At the end of the day, we are all just students. ESW students are often ambitious, but at the end of the day it is important to recognize that ESW is a student organization. Ultimately the goal is to learn. When we "fail," we can use the opportunity as a learning experience and use this knowledge carrying forward. Do not let fear of failure deter you from taking risks with your team!

Collaborate with other orgs. Chances are your college or university has several other environmental/sustainability and engineering focused student orgs. Instead of trying to compete against them for money, spaces, and members, consider collaborating with them on events. For new chapters, this is a great way to get your name out there and begin to recruit members.

Reach out to offices on campus for help. Do not be afraid to ask for help. Your college or university likely has an office that manages all the student orgs and clubs –use this to your advantage. It never hurts to send a quick email asking if they have any advice and resources for you. If your college does event consultations, meet with them early on in the event planning process.

Recruit volunteers and/or create a planning committee. If you decide to take on all the work alone, you run the risk of overlooking details and you take time away from your responsibilities as a leader. Whenever possible, delegate to your officers and even your general body. This will empower your members and allow them to take ownership of the chapter. Be supportive, let them do it their way, and remember to check in with them regularly. If you are able, think about starting up a committee of students to help plan the event—especially if you are planning a larger event

Document everything. And we really do mean everything. Receipts, timelines, meeting notes. All of it. This is especially important for events that you run on a regular or annual basis, keep track of and document your process, expenses, and notes. The effort you put in now to document your work will save your org so much time in the future.

11.2 Pre-Event

Though you can play around with the order, these are some general guidelines to assist you in the event planning process.

Let's set some goals. As with everything else we have discussed in this document, the first step in doing anything is to determine the purpose. Ask yourself –or your event planning committee- how this event relates back to the purpose of ESW.

If you are planning an outreach event, what do you want the attendees to walk away knowing? For social events, the goal is generally for people to get to know each other and to socialize. Lecturers, guest panelists, and other educational events may have a goal of getting the audience to think about sustainability in a different way, or sharing industry opportunities, or inspiring an audience.

Brainstorm and research. Even if you already have a specific event in mind, it does not hurt to take time ponder other possibilities. Why type of event will best accomplish your goal(s)? Does this event compete with an event put on by another org? What has been done by other ESW chapters?

Set a date and time. Before you can reserve a room or plan logistics, you should set a date. Remember: there will never be a time that works for everyone. Choose a date that doesn't conflict with other existing campus programs. Determine a convenient time for your target audience. For example, if you want first years and sophomore students to attend your program, plan for a time that does not conflict with tutor hours or labs. Work around the regular meeting times of similar orgs. Once you have found a date and time that works for your chapter, make a note of this for future events.

Determine a location. Your space should reflect your estimated attendance and the tone you want to set. If you are trying to draw in non-engineering students, you may want to avoid spaces in the engineering building(s). Think about the type of resources you will need (chairs, tables, podiums, projectors), and ensure that your location will be spacious enough for these items.

Develop a preliminary budget. Expenses can include fees, advertising, food, transportation, gifts, and materials. If you are having trouble identifying all your costs, imagine yourself walking into your event –what do you see? If you are providing food, are there napkins, plates, drinks, cups, silverware, trash cans, recycling bins, tables, places to eat, and chairs? If you are hanging signs, do you have enough tape? Other useful items include clipboards, pens, paper, binders, staplers, and nametags .

Register on Campus. Depending on your campus policies, you may need to register your event with your student activities office.

Start Publicizing. Even before you have all the details worked out, if you know you have the funding in place and the time & date set, start publicizing the event as much as possible. A well-organized event with no attendees is still a poorly organized event. See the section below on publicizing events.

11.2 Day of Event

Venue Set Up. Arrive earlier than you think you need to in order to set up. Make sure you have a team of people prepared to move furniture, set up tables, and help the publicity team put up signage outside the venue. If there will be waste at the event, make sure to bring your own recycling and composting bins which are often not present in campus facilities.

Signage. People need to make sure they know how to get to your location, especially if they are not students or faculty that frequent your location. Have signs put up from each of the entrances in the building that direct people to the exact room location. Also, have attractive displays or signs hanging outside the room itself. If it is an open event, this will attract last minute passers-by.

The Spokesperson. Have one or two people at the entrance to the event whose only job is to welcome people. They can direct people into the room, help with seating, and you can have them ready to pass out promotional materials on people's way out of the room as well. Also identify someone who will be giving opening/welcoming remarks and introductions to speakers if there are any. In giving an introduction to the event, this person should also mention efforts to "green" the event including the available recycling and composting bins and how to use them.

Do a Test Run. If you're giving a presentation or demonstrating a project, make sure to do a test run-through. Do this in the event venue to ensure everything is working and that you have everything you need. This gives you time to make adjustments if you need to, sparing embarrassment of a malfunction in front of your guests.

11.2 Post-Event

Venue Clean Up. Of course one of the most obvious post event steps is to make sure the room gets cleaned up. Retrieve all your items and arrange the furniture the way it was before you moved it. Also collect your recycling and composting bins and dispose of their contents in an appropriate fashion. For larger events, a team of people may need to be formed and run with a well defined schedule and milestones like it was to put on the event.

Congratulations. One of the most important post-event steps is to congratulate and thank everyone who helped pull the event together. Send an email out to all your volunteers and/or executive officers thanking them for the work they put into this event. If any faculty, staff, professors, or other people were involved in the planning process, be sure to send them a thank you as well. Everyone likes to feel appreciated and it builds camaraderie and chapter spirit.

Reflect and evaluate. For small events, this could be something as small as having a discussion with your officers on what went well and what you would change. For large events, you might want to consider gathering feedback from your event planning committee/volunteers, attendees, or other peoples involved. Be honest with what did not work and be proud of what did go well. Determine if you have accomplished your goals, document your evaluation and reflections for future planning, and remember to thank your team.