The company I worked for is called Sembcorp Industries Ltd. It is an engineering services company with a focus on sustainable and renewable energy systems. While I worked at the company's headquarters in Singapore, the industry is multinational and has partnering branches and plants in China, India, the United Kingdom, Myanmar, Oman, United Arab Emirates, Vietnam, Bangladesh and Indonesia. Sembcorp leverages its sector expertise and global track record to deliver innovative solutions that support the global energy transition as well as sustainable development goals. Since Sembcorp is not in the U.S., I had never heard of it before, but upon arriving in Singapore, I quickly began to understand that Sembcorp is actually one of the most renowned sustainability/energy companies in Asia. The company is a leading energy and urban solutions provider, driven by its purpose to do good and play its part in building a sustainable future. Their main goal is to "transform brown to green" and be a leading Pan-Asian provider of sustainable solutions. Sembcorp currently has an energy portfolio of 16.5GW, with 7.0GW of gross renewable energy capacity comprising solar, wind and energy storage globally. The company also has a proven track record of transforming raw land into sustainable urban developments, with a project portfolio spanning over 13,000 hectares across Asia. Sembcorps efforts come at the cusp of increasing threats from climate change and their goal is to play a big part in offering mitigating solutions to our warming planet. As of today, Sembcorp has two core businesses: utility and urban development. In the urban development business, Sembcorp is playing a key role in several government-led industrial park development projects, especially in Vietnam and China. The utility business ranges from gas and power generation to water processing plants across multiple countries. It is important to note that Sembcorp does have a few coal plants– or thermal plants– located in India. The reason behind

this is that the company believes thermal energy is still critical in developing economies as of now, but their hopes are to phase out coal and thermal energy production in the near future. Nonetheless, Sembcorp emphasizes “efficient thermal energy” and their priorities lie with expanding their renewable energy portfolio.

Sembcorp has also developed key climate action targets and commitments as part of their mission towards sustainability. Sembcorp was the first Singapore energy company to launch a comprehensive climate change strategy in 2018 and they are still revising and adding to their targets, including plans for sustainable growth and net-zero emissions well into 2050. The company strives to show people that technological gains in renewable energy, storage and distributed energy, combined with the electrification of transport, will reshape the energy sector in the next decade and beyond. In Singapore alone, solar energy is taking a leading role in the energy sector. Currently, Singapore is aiming to deploy at least 2,000 MWp of solar capacity by 2030, supplying about 3% of Singapore’s total electricity demand. Much of this will be accomplished through Sembcorps Tengeh Solar Farm. Sembcorp is also exploring new technologies and they want to be the first to implement them. An example is SembWaste where they rolled out Electric Powered garbage trucks that collect waste around Singapore. This is revolutionary as in the near future, it can eliminate internal combustion engine garbage trucks, work towards a sustainable future, and at the same time stay competitive in today’s environment.

At Sembcorp, work timings and work environments are very flexible and their expectations for punctuality are also lenient. The dress code is smart casual with long pants and covered shoes. In terms of professional behavior, they expect everyone to arrive on time, communicate respectfully, and have a positive attitude and that is why employees in this

company are very respectful and kind to one another, be it whether they are seniors or of a higher-ranking position, everyone is well respected.

I was a part of a small group of Sembcorp called Group Center of Excellence (GCOE). In this group, I was employed under the Planning and Sustainability sector where I focussed on research and development plans for sustainable initiatives as well as policy implementation. My group was responsible for making sure that Sembcorp's plants and renewable project sites are truly sustainable as they advertise. Monitoring and research is needed in order to track the progress and plan for further development and helping in that effort was part of my role. Sembcorp is in charge of wind, solar, thermal, hydropower and more and my research needed to cover all of these Sembcorp sectors in order to really evaluate progress towards its sustainability agenda. In evaluating the progress as well as setbacks, I was also tasked to come up with and edit other potential policy guidelines/frameworks for Sembcorp. While my job was mostly research based, I did have the opportunity for on-site work as well.

My experience as an intern for this company was overall unforgettable and has put me in a position where I am prepared for the future and now have the knowledge and skill set about work life and partnerships. This was by far the best internship experience I have ever had, not only because I loved the work I was doing, but because I loved the people I worked with as well as the mindset and freshness of the company itself. The age structure at the office compromised young and open-minded individuals like myself which is why I felt accepted and included right off the bat. My boss and supervisor were both not more than fifteen years older than me and they really were able to have open-ended conversations with me about the job and get to know me on a personal level. I believe that in any work environment, it is crucial to make strong connections with your superiors and luckily, I was able to do just that. While my other abroad group friends

had remote days due to the pandemic, I had to go in to work every single day. I truly believe that this was to my benefit because I really had the chance to completely immerse myself in the work culture at Sembcorp and create better work habits along with making stronger connections to all of the employees. The long work hours, although tiring, taught me the hard work and effort really required in order to run a successful business in the environmental sector. In many instances I realized that the U.S. does not have a Sembcorp because we are so divided as a country in terms of the battle against climate change and in order for a business like this to be productive, there has to be a collective effort and meeting of the minds. There is no doubt in anyone's mind in Singapore that climate change is a real threat and that sustainability efforts are the only way to go. This is what makes Sembcorp such a strong company asset to the country and the rest of the Asian world.

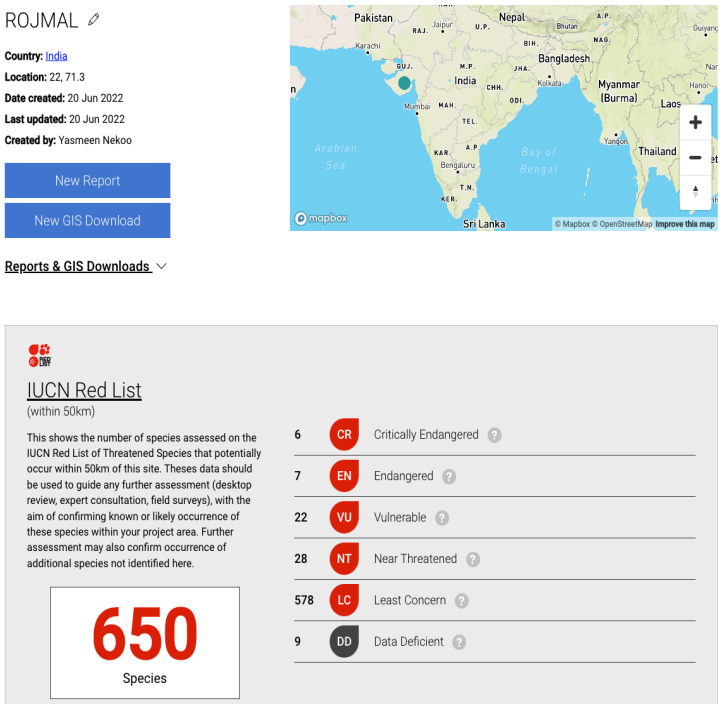
I learned so much on the job and I am grateful for that because before this experience, I had no idea what a job in the environmental policy sector would entail (outside of the U.S. of course). My experience was truly eye opening. While week one was more about getting acquainted with the company and house-keeping logistics, the following week was very much hands on while doing meaningful and practical work. This company was exactly how I had imagined it from looking at their website prior to employment: an enterprise that vigorously works towards a more sustainable future by analyzing and applying research to make real world impacts. Coming into this job, I had this idea that I would just be doing busy work/research for the company. In reality, after the end of the first two weeks, I had already contributed greatly to the team's goals. Even from the beginning, my work was being directly sent over to offices in other countries that Sembcorp is connected with. My supervisor trusted me and my work so full heartedly and it really made me feel part of the bigger picture rather than just an asset. Every

assignment I did had such a real component to it as in what I was doing was actually going to make a difference at some point. I admire when research is able to do good.

During the second week of work, I spent my hours (8 hours per day) working on biodiversity assessments for two wind projects: Rojmal and Sadla (coordinates in India). Essentially, Sembcorp has wind farms in India and in order to make sure that the farms do not negatively impact wildlife/fauna near the project site, it is our job to run biodiversity assessments to evaluate impact. While we want to transition from brown to green, we need to make sure that sustainable growth is not having any adverse effects on the environment. For example, there have been numerous reports across the world that the wind turbines are killing birds flying overhead since the birds do not see the turbine and get struck down. Other reports also find that the turbines may affect migration patterns of certain bird species as well and this could have catastrophic biodiversity effects on ecosystems. In terms of solar, the panels may also have adverse effects on species that need to be studied. First, I had to use Google Earth Pro in order to map the project site areas using the average map coordinates. My previous remote sensing courses taken at UMD really helped me better understand how to use the various tools on Google Earth. Once, I had the average coordinate for each project site, I was tasked with using a software program called IBAT that gives me biodiversity information on a specific area. For example, after plugging in the average Rojmal coordinates, the database will generate a report that gives information such as the endangered species in that area or list any Protected Areas or KBA's (Key Biodiversity Areas). It also gives a number for how many species near the project site are listed on the IUCN Red List and how many are critically endangered, endangered, vulnerable, threatened or least concerned. After viewing the report, I had to fill out a Word sheet

summarizing the results. Below is an example of one of the questions I had to fill out for the Project Rojmal report as well as a display of the IBAT tool.

1.2 Is the project site and its associated activities located within or in close proximity to legally protected areas and areas of ecological significance such as critical habitats, key biodiversity areas, and internationally recognized areas?	☒ Yes ☐ No *If yes, please fill up fields on the right and refer to guidance below to conduct assessment.*	*Through review of various sources in guidance box, fill up the following fields.* This project site is not within close proximity to a legally protected area or a key biodiversity area, however there are significant KBA's and PA's within 50km that play host to important wildlife such as the waterfowl, soaring birds, and aquatic plants. The IUCN Red list identifies at least 26 critically endangered and 42 endangered species within 50km from the site. Two critically endangered species within the area include the lapwing and the Indian vulture. Name of protected/internationally recognised area or critical habitat: -- Nalsarovar Wildlife Sanctuary (RAMSAR) and Bhashkarpara wetland Tick accordingly: ☒ IUCN Protected Area ☐ Critically Endangered (CR) ☐ Endangered (EN) ☐ Vulnerable (VN) ☒ Key Biodiversity Area (KBA) ☐ Important Bird and Biodiversity Areas (IBA) ☐ Endemic Bird Areas (EBA) ☐ UNESCO Natural World Heritage Site ☐ UNESCO Man and the Biosphere Reserve ☐ Wetlands designated under the Convention on Wetlands of International Importance
		Rating: ☐ Low ☒ Medium ☐ High High rating if project is located within a EN or CR protected area. Medium if one of the boxes is ticked. Low rating if none of the boxes are ticked.



The end report was about twenty-two pages in length for each project site in India. I learned so much from this one assignment because it taught me how much really has to go into sustainable projects and the research does not end when the wind turbines turn on or the electricity turns on. There needs to be constant monitoring by all parties to ensure that the project is truly sustainable, and not just labeled as such. It turned out that while both wind farms in India were not putting wildlife at significant risk, there were still some species that were affected by the turbines, especially the migratory birds. This goes to show that without Sembcorps consistency with monitoring, the sustainability projects may actually go against environmental agendas.

One downside that I ran into while using the IBAT software was that it gave the number of species on the IUCN red list, but the questions I needed to answer required the actual species

name. The only way to get the species name was to upgrade IBAT to the newer version which is very costly. To see if we could troubleshoot the issue, we had a zoom meeting with the creator of IBAT to see if he could give us a company discount for the upgrade. Unfortunately, he did not offer and we had to do extra research to find the species names. However, the GCOE division is working on establishing the funds required to get the upgraded version of the software. Instead, we used the IUCN website to find the species, however there was more human error this way. Nonetheless, my supervisor and I pitched the idea to Sembcorp for funding for the upgrade which was a fun experience for me as well. In the end, these reports were sent directly to the heads of Sembcorp headquarters for further evaluation. My boss checked over my work before sending it over and made little to no changes. Overall, this first assignment proved to me that the work I had done there was actually very valuable and had a direct impact on project operations going on thousands of miles away. I love working for a company that acknowledges that improvements and modifications are always necessary if it means a more sustainable outcome for this planet. What I admire the most is that it isn't all about profit for this company.

Towards the middle of my internship experience, I spent a lot of time doing hard research and focussing on not only Singapore environmental policy, but other countries as well. The fourth week of my internship was the most exciting week I had. My week started with an on-the-field job which I am highly grateful to have experienced as it was not planned, but more of an opportunity I was given. One of my assignments the prior week was to do research on the Floating Solar Tengeh Farm here in Singapore. Singapore's floating solar panels are the world's largest floating solar panel farms and were designed to quadruple solar energy production by 2025 and make its water system entirely powered by renewable energy. Made up of 122,000 solar panels spanning 45 hectares, it is roughly equivalent to the size of 45 football fields. The 60

megawatt-peak solar photovoltaic (PV) farm is now officially one of the largest operational inland floating solar PV systems in the world. The solar farm, installed by Sembcorp Industries, was deployed as part of Singapore's goal to quadruple solar energy capabilities by 2025, in a bid to help the country do its part to tackle the global climate crisis. The power generated by the panels is enough to power 16,000 4-room HDB households and also offsets 32 kilotonnes of carbon emissions annually. This is equivalent to taking 7,000 cars off the roads. The entire project site is made out of more than 800 sinkers, 122,000 solar panels, 250,000 floats, 10 floating solar panel islands and 16 power conditioning systems. The solar farm can generate enough power to meet the energy needs of PUB's local water treatment plants. With this, Singapore will be one of the few in the world to achieve 100% green water treatment. I had even researched these panels before coming to Singapore and that week I had the honor to go visit the farm and spend the entire day doing biodiversity screening.

Similar to how biodiversity needed to be monitored near the wind farms in India to make sure the farm wasn't inadvertently harming animals, the same goes for the floating solar farm. With any energy project, it is imperative that there is proper screening for wildlife to ensure that

the development does not come at the cost of species loss. I woke up at five in the morning that Monday to drive with my supervisor to the solar farm which is right at the border with Malaysia. Once we got there, we got on a little boat with an expert bird watcher and his assistant. First, we spent a couple hours going around the massive panels and listening/watching for different bird species and recording each sighting (I was just observing). We were only looking for birds since the panels may have direct impacts on birds and more advanced testing is needed to record the fish under the water. The biodiversity expert also told us that there weren't many fish near or under the panels but more on the outer edges of the lake. Nonetheless, the reflectance of the panels may disturb flying birds and we also needed to be sure that the panels are not making it difficult for the birds to hunt or dive. Turns out that the panels are actually a great spot for the birds to perch on and they have actually used it to their benefit. As I was riding the boat I saw at least a dozen cranes perched on the panels basking in the sun. After bird watching, the scientist and his expert went to various locations around the solars to take water samples. In total, they collected 37 different water samples to test for different bacteria/pollution in the water that could be a result of the solar development. I helped collect these samples. It was eye opening how many chemicals needed to be tested for but I liked how thorough it was since it is better to test for everything rather than leave out a potential toxic pollutant. As of yet, the water remains safe and clean with the solars seemingly having no impact on the surrounding water. After six hours of being on the boat, we went inside to the shed with all the solar farm workers and had a big Malaysian lunch. Visiting one of the world's only large floating solar farms and collecting data was one of the most inspiring experiences I have ever had the chance to take part in.

After the solar panel visit on Monday, I spent the rest of my week doing raw research on different countries' biodiversity guidelines in terms of wind, solar, thermal, etc. First, I researched

Singapore's biodiversity guidelines in terms of solar development, such as how they monitor bird fish and plant species along with water quality. Most of this research was about the floating solar farm and how biodiversity monitoring is conducted. Since Singapore is such a small country, they do not have the land area for other types of renewable energies, which is why they mostly rely on solar energy. I followed that research with thermal energy development in Myanmar and then solar in India. This assignment was my lengthiest one that involved the most research. It was difficult to find certain information but after digging through countless online reports for quite some time, it was possible. After completing that, I moved on to researching international and local environmental guidelines for China, India, Vietnam, and the UK. I focussed on their environmental policy guidelines as well as regulations and then discussed some drawbacks pertaining to their policies (i.e. have improvements really been made or not). This research would help facilitate ideas for potential guidelines that Sembcorp can help initiate in terms of their sustainable projects and what they should be accomplishing. Other countries' policies can also help build upon Sembcorps climate change strategy framework.

Ex.

India

International Guidelines
http://nbaindia.org/uploaded/pdf/IndiaNationalBiodiversityActionPlan2019.pdf

- Constitution of India creates an abiding responsibility of the State and the people of India to take positive action for the protection and conservation of natural resources.
- Article 48 of the Constitution of India mandates "the State shall endeavor to protect and improve the environment and to safeguard the forests and the wildlife of the country." Article 51 A (g) makes it a "duty of every citizen to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures." Forests as well
- EPA for legal interventions for protection of ecosystems including coastal, riverine and wetlands ecosystems
- NFP 1988, NEP 2006, National Agroforestry Policy, 2014, and National Policy on Marine Fisheries (NPMF)
- India government: develops national strategies, institutes measures, promotes conservation and creates incentives for research.
- National Mission on Sustainable Agriculture (NMSA): 1. National Advisory Committee (NAC) Chaired by the Secretary (A&C) 2. Project Sanctioning Committee (PSC) chaired by the Mission Director, NMSA
- The NFAP- 2020 aims at achieving an annual growth rate of about 8% on a sustainable basis to reach a production level of 150 lakh tonnes by 2019-20.
- SDG's, CBD, etc.
- **Drawbacks:**
  - Despite having a specialized court which deals with environmental cases, India still ranks high in terms of pollution around the world. Lack of obedience
  - Excessive interference by government on the governance of the Ministry causing poor implementation of environmental law
  - Lack of political will
  - There is lack of independence given to the central and the state boards who still have

Overall, these two assignments helped me better understand the varying guidelines and standards that different countries have relating to environmental management. It proved to me how much more strict Singapore is compared to the other ones in terms of promoting sustainability and protecting wildlife. Researching India was also interesting for me because they had the most guidelines/law and policy but also had the most drawbacks meaning that implementation in that country is really lacking. Overall, I gained a stronger understanding of how different countries evaluate their environmental impacts and determine how they want to address the climate crisis. All of the countries have clear intentions to do good and they have strong enough policies to get the job done but when it comes to implementation, business needs superseded the needs of the environment. Most of these countries are developing nations and rely on fossil fuels for economic growth. Sustainability agendas aim to take that away and so that is why implementation is falling behind, but this does not mean that progress will not be made. As the world shifts towards renewables and technology advances, developing nations will be able to decrease their fossil fuel dependence while still maintaining their economies.

During my third to last week at Sembcorp, I not only visited the solar farm again with the rest of my department, but I also did extensive research on a new topic. That one assignment took me over two weeks to complete and required hours of research. After completing work on biodiversity policy and law guidelines, I was tasked with moving on and looking at the economic side of environmental policy and mitigation measures. In order to allocate funds properly, Sembcorp needs to continuously run risk reports for each of its company project sites. For example, a wind farm in the UK is at less risk to natural hazards than one in Oman, thus it is important to track the productivity from the plant in Oman and make sure that natural

disturbances are not, or don't have potential to, hinder the plant's success. If it does, extra funds may be necessary to address the problems. Or, if risk is too high, it may be worth considering moving the project site elsewhere. Although I stand by the fact that Sembcorp really prioritizes environmental safety over profits, it is still necessary for them to track their economic records to see if their efforts are being placed in the right areas. As climate change worsens, it is also becoming more difficult to run green projects, especially ones distant from human civilization. Yet, this only stresses the importance of their continued funding.

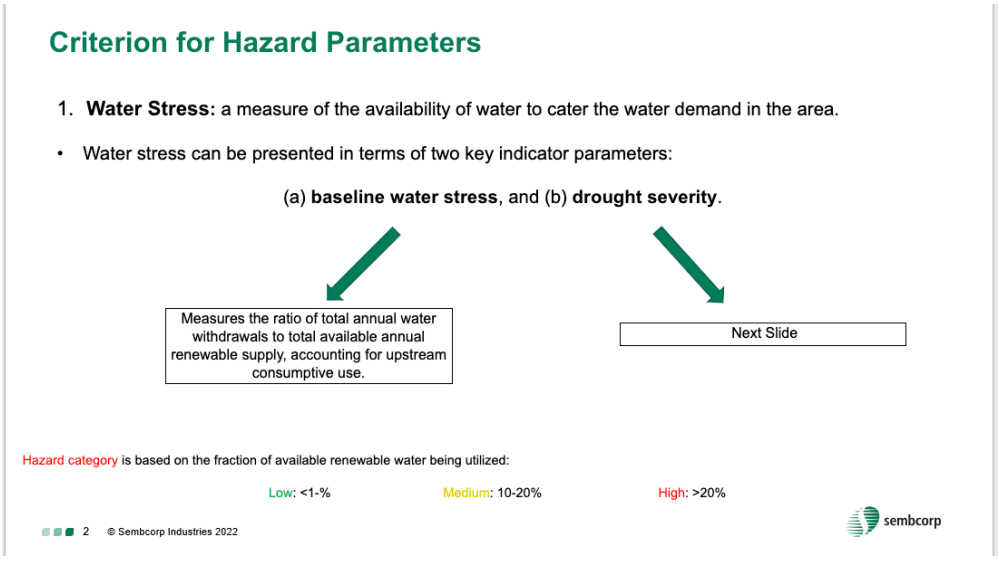
Sembcorp has multiple plants in Singapore, Southeast Asia, UK, India, Middle East and China, all including projects such as solar energy, wind farms, thermal plants, water treatment facilities, and coal plants (except they are working on phasing coal plants out). For this assignment, I had to do research on every single plant that Sembcorp owns and give an explanation for their given risk rating. Sembcorp identifies ten hazards that may have potential impacts on a project site: water stress, drought severity, flood occurrence, wildfire density, wind speed, cyclone intensity and frequency, sea level rise, storm surge and earthquakes. For each of these hazards, an independent consultant will give a risk rating (0 none, 1 low, 2 medium, 3 high risk) depending on how much effect each hazard has on that plant. The rating is largely based on how many times the hazard has occurred in the past to that specific plant. I had to then conduct research to find out why the consultant gave those risk ratings for a specific year range and if I disagreed, I needed to explain why. Below is an example of the excel I filled out for this assignment.

Asset with risk ranking - 3	Market	Hazard Parameter	Year	Rating	Findings & Impacts	Reference
Sirajganj 4 power plant	Bangladesh	Flood Occurrence	2019--> 2021	3 --> 2	The Sirajganj power plants sit on a floodplain in a country that experiences frequent floods. Flooding was as recent as 2020. However, Bangladesh has taken many structural	https://www.thedailystar.ne https://www.adb.org/results
		Wild Fire	2019--> 2021	3 --> 1	Sembcorp's Sirajganj Combined Cycle Power Plant is located in Rajshahi, Bangladesh. From	https://www.globalforestwa https://www.theguardian.co
Sembcorp Energy India Ltd (Nellore Power Plant)	India	Water Stress	2019--> 2020	3 --> 0	Sembcorp's power plants in Andhra Pradesh have saved 12.5 crore cubic litres of potable water by using seawater and recycling water for power generation in FY 2020-2. While	https://www.sembcorpener
		Flood Occurrence	2019--> 2020	3 --> 2	There is no evidence to jusify the lower risk rating for flood occurrence in the Nellore regio	https://www.newindianexpr https://timesofindia.indiatim
		Wild Fire	2019--> 2020	3 --> 0	There is no evidence of wild fires occuring at or near the Nellore plant in the past year. It can be inferred that although f	
		Cyclone Frequency	2019--> 2020	0 --> 2	In India, the state of Andhra Pradesh is the second most impacted state by cyclones. The cyclones can cause	652c63d73c8
		Storm Surge	2019 --> 2020	2 --> 0	The last major storm surge event near this Nellore Power Plant was in 2016 at 1.34 meters. This number already indicates low risk, and as precaution and preventative	/Vardah_B8.h tml
Myingyan IPP	Myanmar	Water Stress	2019--> 2020	1 --> 3	Myingyan is located in a drought affected area. In just 2019 of December, the SPI reached -2 meaning lower than normal median precipitation levels. During the dry season, water	3c126af0543 5034e3e6
		Flood Occurrence	2019-->2020	3 --> 1	According to the Climate Change Knowledge Portal, the number of people affected by flooding has decreased in the past year. Although flooding occurrence has remained a	nk.org/count ry/myanmar/ vulnerability
		Wild Fire	2019--> 2020	3-->1	According to NASA Earth observatory, the last major wild fire in the Myingyan IPP region was in 2009 making this is a low risk area in relation to this hazard.	#6/22.019/95 .560_ showMap=tr ue

After spending hours on this assignment I began to realize some flaws and biases in the way the consultant and the plants were rating their risks. So many of them had a high risk rating of three in 2019 and then all of a sudden went to low or no risk (0 and 1) by 2020 or 2021. Knowing that climate change is only getting worse, I began to question the logic behind this especially as the research I was finding completely contradicted their findings. The research did not show that the risk was that high right off the bat for some plants and then dropped off a year later. More importantly, it was clear that those cases with a high risk rating in 2019 did not get much better by 2020 or 2021, and some even got worse. For instance, wild fire and drought did not magically get better in three years time, but the risk ratings suggested it did. I believe they did this to make a statement that the plants are all low risk, even if they have experienced hazards they have overcome them and that changes do not need to be made. If they do need to be made, this may be an economic loss, especially in terms of job loss. This really upset me that I was finding these biases and no one had seen them before or mentioned them. I told my boss about the biases I found and it made me angry because I felt that I had to defend false ratings. However, my boss reassured me that it is good that I notice these biases and that it is okay to openly disagree with the rating. The point of the activity was to come up with a better way to evaluate risk knowing that there is so much room for people to falsely give themself a better rating than they actually deserve. After doing this assignment, it was clear that we needed to create a system whereby the plant can easily keep track of each hazard that occurs in a year in their location. This way, they don't have to carry out independent research (like I did) to try and

find how many wildfires, for example, occurred within a 30km radius within their project site and then record it. The GCOE team came up with an idea for a programming system where it could scan online news articles to track hazard words such as “fire,” “flooding,” “drought,” etc. This way, it would be much faster to get the number of occurrences of a specific hazard in a given year. Doing it this way can also help eliminate the biases.

After finishing that assignment, I was tasked with creating a powerpoint explaining how to use the excel register to evaluate hazard rating findings. The instructions were to be sent over to the heads of the project sites in the various countries for their own evaluations. They should complete the register annually. I hope that with the clearer details on how to determine the risk rating/hazard category, there will be less bias in the future.



Other than work, that week was memorable for me because I really got closer with all of my coworkers and we all established a strong friendship with one another. Sembcorp is a very open-minded and liberal company and most of the employees are young, around my age. I remember that week my coworkers set up a ping pong tournament after work and the following

Thursday we had a badminton/dinner night as well. Although the working hours are long and sometimes stressful, everyone here makes an effort to have fun and be light hearted.

As I have already stated, I loved the work environment, the people there and the work that I was given. I liked that I was treated as a real partner and that my work greatly contributed to the company's needs. I also appreciated how I was able to constantly ask questions without any judgment and felt free to speak my mind without apprehension. I think my managers managed and treated me very well. They were my friends but they were also my mentors and guided me through all my assignments. They were very professional and I really felt that they truly listened and took to heart everything I presented to them in our meetings. One of the biggest things I loved about working in Singapore at Sembcorp was that lunch break is very different from what it is in the typical U.S. job. For lunch, the entire team gets together and waits for everyone to finish up their last bit of work and then we all go to lunch together. It was always a group of 8 of us going every single day to eat together. We spend an hour eating and talking, so it is not just a quick snack grab but rather a time to really build upon relationships. This is how I became so close with my boss, supervisor, and other interns my age. We became almost a family and that really helped me adjust to life on the other side of the world. I believe this is the way lunch break should be at work here in the U.S. as well. Some may say that is unproductive, but I think it gave us a mental break from work and allowed us to come back really refreshed and ready to work hard again.

Here at home, I am used to having to argue with people about the importance of climate change issues and I feel like part of the work is actually just motivating people to agree that it is a cause worth fighting for. All over the U.S. we have climate activists, forums, events, etc. all about the worsening climate and how we are headed for doom which makes the work all the more

necessary. This atmosphere is what I was used to, and honestly, liked the most about the work– the drama behind it all. In Singapore, climate change is a fact (as it should be) and people do not openly talk about how bad it really is or even show as much concern as we do here. Albeit, Singapore is doing much more for the climate crisis than we are but the morale almost felt like: "yeah ok climate change is here and happening and we have to deal with it, or, get other companies to deal with it." And those "other companies" would be Sembcorp. The work life in the building was a very typical, down-to-business routine which is unusual to me for a sustainable company trying to fix the planet. I expected more enthusiasm (or drama) about the whole crisis. I expected Sembcorp to host public events talking about their efforts and initiatives. I expected Sembcorp to be more open about why their efforts are important. Sembcorp installed one of the world's largest floating solar farms in the world and hardly anyone in Singapore knew what that was. I did not like how private Sembcorps work was because it makes the whole climate change problem seem like one for the engineers; one for typical busy workers to solve. I believe change must include some forms of motivation or instilling hope or fear or whatever it may be into people and Sembcorp is not doing that. When I would talk to my intern friends who also worked at Sembcorp about how bad the climate crisis really is, they would sort of brush it off. In some ways, I began to think maybe this is actually a good mindset: drop the drama and focus on the work. Clearly, it is working in Singapore since they are such a sustainable city. However, I really felt that more change would be possible if more people knew about Sembcorps work or if the company held public forums, public clean up events, etc. to show their worth. Climate change cannot be fixed by researching and staring at a computer screen for six hours a day but that is exactly what everyone at Sembcorp does. And I do not mean to say that the research isn't crucial, because it is and that is what I loved about the job, but there needs to be a

balance between work and action and Sembcorp is lacking in the public action sector. To be a little more clear, I was a new young intern and only going to work there for about a month and a half yet I was taken to go see the floating solars and make a difference on the ground. More than half of all Sembcorp employees in my office had not even been to the floating panels and one would think that if they are dedicating their lives to this work, they would at least make the effort to go visit the place which is only 15 minutes away. I do not mean to say Sembcorp lacks motivation, I may be more so gesturing at the public attitude as a whole. Sembcorp follows strict guidelines and does the work they are told to do and nothing more and so the employees think there is nothing more to do either and that is where the mindset comes from. Sembcorp has the plant workers working at the plant with the engineers and the researchers working in the corporate office with the researchers. While it may sound fine, I really think there should be a mixing of the branches because there needs to be interaction on all sides. We get bias in our hazard ratings because the engineers are tasked with telling us updates on how their plants may be susceptible to failure, yet they do not even know who they are talking to. They do not know us researchers and how much work we put into making sure everything runs smoothly for them. There is a total lack of connection between all Sembcorp sectors and I think that has to change if the company wants to grow stronger.

Overall, this internship has shaped my future interests in many ways. Before coming into this job I was leaning more towards policy work when it came to environmentalism. After this job, I have realized that I am more so interested in the research and science part of climate change work and that grad school is more for me than law school. Also, this job made me realize that if I am going to be doing mostly research, I want to have some remote days because sitting in front of a computer screen for eight hours a day five days a week is a bit exhausting for me.

The work culture in Singapore is very strict and there is a lot of sitting in cold office buildings. While I still valued my experience, I believe that in this day and age, I can get the same amount or even more accomplished research-wise from my own laptop at home rather than in the office. The job also taught me that I am really interested in researching and learning more about sustainable cities and urban development strategies that work to counter climate change effects. Singapore showed me that intense industrial development can be sustainable if effort is put into engineering with an eco-friendly mindset. In Singapore, they construct buildings with plants on the inside, not just outside, to help with cooling and save electricity. Not only this, but it works to decrease carbon emissions and allow for a better flow of oxygen throughout buildings. Architecture like this can easily be incorporated into New York City, for example. No matter what, I want to work in the renewable energy sector and have my work either contribute or build upon the possibilities of the renewable sector. I hope that I can influence policy making to lean towards sustainable growth rather than fossil fuel industries. After working at Sembcorp, I really want to either find a company similar to it in the U.S. or try and establish one here. We need a Sembcorp more than ever here in America. With renewable technologies on the rise as government policies shift towards greener alternatives, we need institutions capable of regulating, monitoring, and improving upon the renewable projects and making sure they are really sustainable. We have little to no renowned companies that work on environmental justice issues (only ones that work through the justice system which always has flaws) and a company like Sembcorp would work on exactly that. It could start out as a non-profit but eventually become for profit. I really think the U.S. will soon need companies like this and I want to be the first person to be a part of the transition.

My previous classes taken at UMD really prepared me for this experience and I am so grateful for that. I have been taking environmental science and policy courses for almost four years at college and everything I did at Sembcorp related to absolutely everything I learned in school. Working with excel and powerpoint at school helped with my work and my minor in GIS helped me better understand the tools used in Google Earth. The work I did at Sembcorp brought to life the importance of the topics I learned in school when it comes to environmental policy work, remote sensing, and international development. In my environmental policy classes we spend hours going over policy guidelines and memo's for policies and at work I had to edit an actual policy draft for Sembcorps new climate change framework. Had I not had prior experience with editing and prior knowledge on environmental policies, this would have been a very hard task for me. Now, I am excited to take what I learned at Sembcorp and bring it back to the last few classes I have for my senior year at College Park.