

The Green Passport Program: Proposing A Study Abroad Program to Encourage Sustainable  
Behavior and Offset Emissions

Suraya Souidi

April 25, 2022

Environmental Studies – Senior Seminar

**Abstract**

The University of Richmond has a goal to reach carbon neutrality by 2050, and in order to do this, carbon offsets are likely a necessary component to implement in lieu of adequate technology to abate the usage of carbon from behaviors such as travel. The scope of this proposal focuses on the Office of International Education and study abroad travel, which accounts for a large amount of emissions in the University's portfolio. The purpose of this study was to propose a program to the Office of International Education which oriented students towards sustainability while they engaged in a study abroad opportunity through their office. The Green Passport Program is an application-based program which utilizes carbon offsets and encourages sustainable behavior within the context of a liberal arts education.

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## **Acknowledgements**

First, I would like to thank Dr. Todd Lookingbill for guiding this research and encouraging my ideas throughout this semester. A special thank you to Rob Andrejewski, who helped spark my interest in sustainability and assisted me during the creation of my proposal. Thank you also to my friends and family who have supported me and to the Office of International Education for being open to receiving this final proposal and helping me combine my love for travel and for the environment within this proposal.

## Introduction

It has become clear that the climate crisis will not allow us to continue a “business as usual” scenario and emit our current amounts of greenhouse gas emissions. According to a recent report from the International Panel on Climate Change, we only have a 66% likelihood of preventing catastrophic events from climate change if we reduce emissions to zero by 2050 (2021).

Understanding the severity of our situation, the University of Richmond has committed to a carbon neutrality goal by 2050, like many other organizations and universities around the world (Office for Sustainability 2022). In order to achieve this goal, the University has conducted carbon accounting to understand its emissions profile and begun implementing reduction strategies, such as procuring solar off campus (Grow 2021). However, there are other activities within the University’s emissions portfolio which are not feasible to reduce, such as scope three emissions.

Scope three emissions are a type of indirect emissions which include areas of an organization such as commuting and sponsored travel (Greenhouse Gas Protocol 2022). On the whole, it can be unfeasible to abate carbon emissions from travel, especially when renewable technologies are not developed in the area an organization would like to reduce from. One example is traveling by plane: the technology of electric planes is not yet advanced enough to support commercial flights. Where reduction strategies are not able to be put in place, a company or organization can instead opt to purchase carbon offsets in order to meet a net zero target.

Carbon offsets are simply a reduction of carbon meant to compensate for emissions being created elsewhere: picture a scale being balanced to zero as a result of an emissions releasing and emissions capturing activity offsetting one another (Kollmus et al. 2008). These offsets are sold

by the amount of carbon (typically measured in ton of CO<sub>2</sub> equivalent) that is abated by the technology. There are third-party registries which can verify the credibility of a carbon offset. Some of these standards include the Gold Standard, Greenhouse Gas Protocol for Project Accounting, and the Clean Development Mechanism. Common categories that are included in these standards are:

- Baseline/Measurement – The project must have a measurable amount of carbon captured, such as in methane capturing
- Additionality – The project must be newly created as a result of an investment
- Permanence – The project must be permanent, such as in forest-based offsets which need to be permanent to realize the full carbon capturing ability of trees
- Co-Benefits – The project must also benefit the social and economic landscape of the surrounding community

There are a wide variety of projects that organizations and individuals can invest into, such as efficient cookstoves, solar or hydro energy, and forest-based offsets (Kollmus et al. 2008). This approach will focus on procuring forest-based carbon offsets, which may also be referred to as Land Use, Land-use Change, and Forestry (LULUCF) offsets. Within this type of offset, projects such as avoiding deforestation, reforestation, afforestation, and soil management are included (Corbera & Brown 2010). There are many reasons to consider forest-based offsets over other types. For one, the United States relies on our forests as a carbon sink—our forests captures 11% of the nation’s greenhouse gas emissions annually (EPA 2020). Second, certain types of LULUCF projects can support a new form of sustainable agriculture, where local communities can be paid profitable and livable wages to engage in models such as agroforestry (Wensing 2021).

Although there are a few different aspects of campus life which may not be abatable in the current day, this proposal will focus on determining an approach to offset student travel to and from their study abroad sites. There are a few reasons for choosing this category of emissions. One is that an important attractor at the University is its expansive study abroad program, with programs in more than 60 countries and 65% of students during a typical year choosing to participate in the experience during their time on campus (Office of International Education 2022). No rational stakeholder at the University wants the campus community to travel less—there are clear benefits to traveling and especially study abroad, such as long term academic and career success (Ruth et al. 2019). Therefore, these travel emissions are a prime example of unavoidable emissions, which can't yet be reduced through usage of renewable energy.

Another relevant statistic provided data from nearly 500 colleges and universities, finding that 65 of these have purchased carbon offsets in the year 2018 alone (Munkhdalai 2019). It is part of a steadily increasing trend of institutions who are utilizing offsets to meet their net zero goals. Additionally, a study conducted by Bosehans et al. found that Involuntary Carbon Offsets, which are included in the cost of travel or absorbed by the sponsor, decrease negative affect by travelers in their climate concerns (2020). Moreover, it is becoming clearer that future generations of students have a desire to engage in sustainability during their college careers: considering six areas of interest, 64% of new first-year students at the University of Richmond rated sustainability as either important or very important to their personal life (see Appendix A for more information).

Finally, within the University of Richmond, we are beginning to address unavoidable emissions. The Office of Admissions recently announced a new offset purchasing strategy for

prospective students who travel to the University to visit campus during their college decision-making process (University of Richmond Newsroom 2022). These facts show how the issue is material to the University of Richmond, is becoming a part of a larger trend within universities' reduction strategies and is a common offsetting category among organizations and institutions.

As part of my background research, I met with Dean Martha Merritt and Dean Ellen Sayles Office of International Education (OIE) to discuss their interest in receiving a proposal for a project of this kind. From our conversation, I created a modified SWOT analysis (found in Appendix B) and identified strengths, weaknesses, opportunities, and asks from their team that I include in my final proposal.

The strengths included their interest in merging sustainability with international education. When I spoke with them, they had attended conferences and research opportunities to encourage green traveling. However, because of the restrictions of the OIE staff's bandwidth to explore opportunities within this area, they hadn't been able to implement their ideas.

Additionally, Dean Merritt has funding through the Dean's Discretionary Fund, which allows a dean to use funds without having to undergo the normal University approval process. The Deans highlighted that this fund is limited and would amount to about \$20 per student if used on offsetting study abroad transcontinental emissions. Therefore, if the offset purchasing were not funded by another fund, it may not be feasible to use the Dean's funding.

At the end of our conversation, the Deans asked for a program which planned out a supplementary grant opportunity for students to apply for which supported students who were interested in exploring sustainability-related endeavors while studying abroad. Their goal was to help students travel with "eyes oriented towards sustainability".



Following my background research and my conversation with the OIE, I created the proposal for a program that would combine the desire for the Office of International Education to encourage students to travel in a sustainability-oriented manner and the necessity of using carbon offsets to meet our climate goal of net zero by 2050.

## Methods

The scope of my work was a semester-long, research-based proposal which would end in the form of a written deliverable to the OIE. I aim to provide the final paper and give a presentation on my findings. Within the final proposal, I aimed to include literature supporting the potential success of the program, the viability and cost of providing carbon offsets for study abroad travel, recommendations for a faculty and staff travel offset program, and proposed next steps.

My methodology combined different aspects of research to gain a holistic view of the viability of the program. I conducted stakeholder interviews with the Rob Andrejewski, Director of the Office of Sustainability; Stephanie DuPal, Vice President for Enrollment Management at the Office of Admissions; Martha Merritt and Ellen Sayles, Dean and Associate Dean of the Office of International Education; and Olivia Stoetzer, President's Fellow and student at Swarthmore College. I spoke with Andrejewski in order to understand the work that has currently been done regarding carbon offsets at the University of Richmond, discuss carbon offset providers and any opportunities to implement local carbon offsets, and understand stakeholder interest and knowledge about offsetting at the University level. From my interview with Andrejewski, I connected with DuPal to further understand the process which the Office of Admissions went through in order to gain support and finance their offset program. My meeting with the deans of the OIE focused the scope of my final proposal and gave me access to relevant resources which informed my findings. Finally, I met with Stoetzer following the publishing of her President's Fellowship report on implementing offsets for scope three emissions at Swarthmore College, and asked about their campus community's interest in offsetting and learn

about challenges and opportunities to implement a program for travel-related emissions. These interviews informed my background research and guided the direction of my proposal.

Alongside these interviews, I conducted a stakeholder survey which asked students, faculty, and staff about their opinions regarding carbon offsets. The survey was a short, 10-minute, multiple choice questionnaire which received IRB approval (URIRB220308). I reviewed the survey before submission with IRB Chairperson, Dr. Don Forsyth. The survey was distributed to SpiderBytes, the list-serv which sends out announcements to the undergraduate student body, and faculty and staff who engaged in travel through the OIE. I gave respondents the opportunity to win \$50 by entering their email when they completed their response. The survey did not require students to know anything about sustainability or carbon offsets in order to participate: I provided an overview of what carbon offsets were so that the respondent could have background on the topic. In Appendix C, I share a full list of the survey questions. The questions focused on a few key ideas to get a strong and holistic idea of stakeholder interest:

- Views on carbon offsets—positive or negative;
- Ranking importance of different aspects of offsetting;
- Interest in participating in a hypothetical offsetting program (students);
- Support for different types of carbon offsetting programs; and,
- Willingness to pay to offset their travel emissions (faculty and staff)

Additionally, I sought to conduct a comparative analysis of accredited offset programs based on study abroad travel emissions data I received from the Office of Sustainability. Using these methods, I determined the costs and potential risks of purchasing carbon offsets against the benefits of my proposal and aimed to include stakeholder input to support the potential success of my proposal.

Finally, I conducted literature review of sustainability-oriented study abroad programs to understand successes and challenges of encouraging sustainable behavior, which would also allow me to use aspects of the programs as models for my final proposal.

## **Results**

### *Stakeholder Survey*

The survey was open for submissions for from April 4<sup>th</sup> to April 22<sup>nd</sup>, and a total of 124 individuals completed a response (see Appendix D). 116 students, 5 faculty members, and 3 staff members participated. Of the 116 students, 20 were first years (17.2%), 32 were sophomores (27.6%), 32 were juniors (27.6%), and 32 were seniors (27.6%). About 1 in 4 students studied abroad during their time at the University.

When asked if they were familiar with carbon offsets, a majority (56.5%) of respondents stated that they knew about carbon offsets before reading the provided paragraph. Moreover, a large majority of respondents (74.2%) viewed carbon offsets at least somewhat positively following the reading. In contrast, 7.3% of individuals reported viewing carbon offsets negatively, and only one respondent (0.8%) viewed offsets extremely negatively following the reading. Finally, a majority (54.9%) of respondents stated that carbon offsets can be “very useful” for the University of Richmond to use in order to meet its climate goals.

In addition to asking about their desire to incorporate carbon offsets into the University of Richmond portfolio, I surveyed preferences of respondents from seven options. They preferred offsets that were locally beneficial (21.4%), had the ability to educate the campus community about sustainability (17.4%), and were socially beneficial (16.9%).

*"Would you like the University to offset travel-related emissions?"*

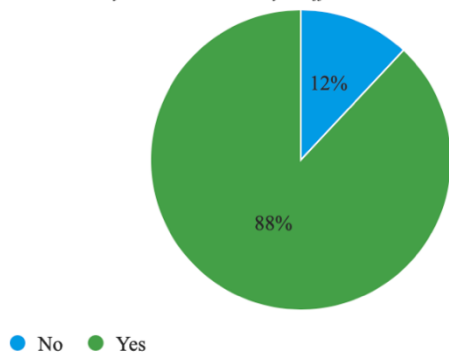


Figure 1: Student, faculty, and staff interest in University of Richmond offsetting university sponsored travel-related emissions

*"If the University paid to offset your travel to a study abroad location, would you be willing to engage in sustainable initiatives at your abroad institution?"*

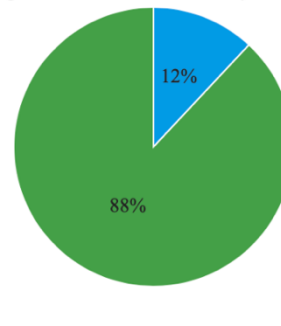


Figure 2: Student interest in the University of Richmond purchasing a carbon offset to use in their transcontinental, round trip study abroad flight in exchange for engaging in sustainable behavior

*"Would you also be willing to write a short report on your findings or learnings from your experience?"*

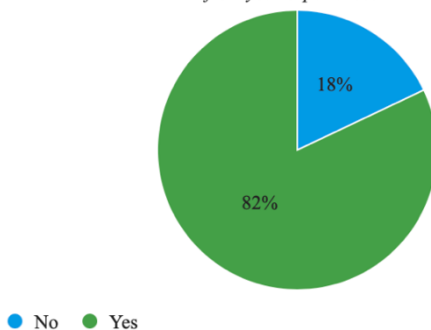


Figure 3: Student interest in the University of Richmond purchasing a carbon offset to use in their transcontinental, round trip study abroad flight and the student reflecting on their experience after engaging in sustainable initiatives as a result of the purchase

Students were surveyed on their willingness to engage in integral aspects of a potential sustainability-related program if they were to travel abroad. Figures 1-3 show that a vast majority of students would be willing to engage in sustainability-related initiatives at their abroad institution (87.9%), and a similar amount of respondents would be willing to write a report about what they have learned while they engaged in those sustainability-related initiatives (81.9%).

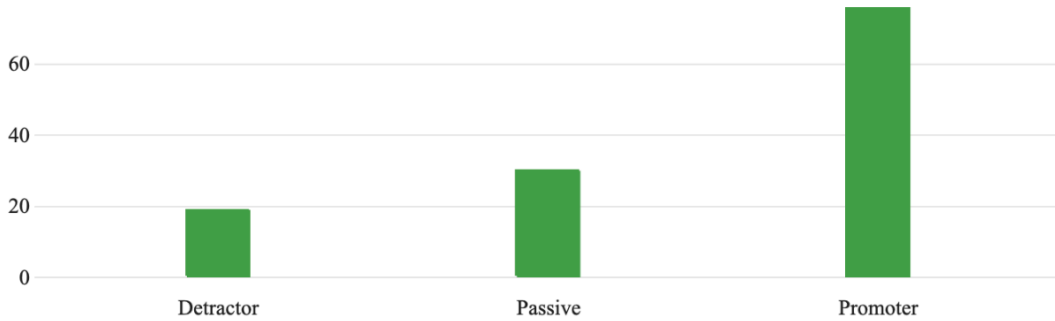


Figure 4: Support of the respondent for a tree planting project in Richmond, Virginia's lower-income neighborhoods which have low tree cover and make the area extremely hot in the summertime.

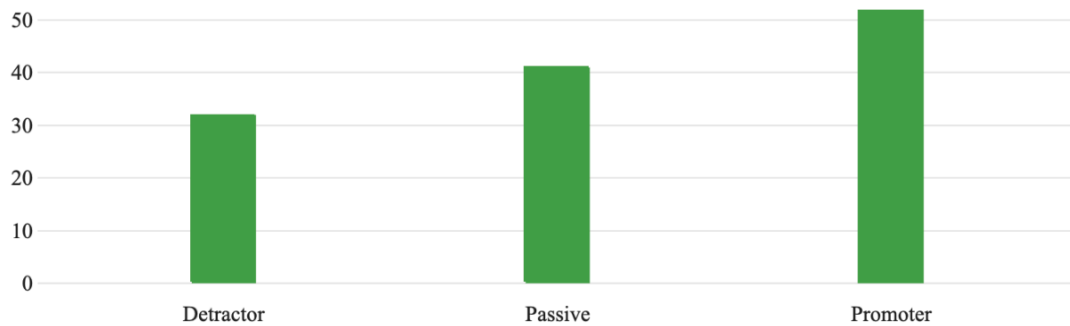


Figure 5: Support of the respondent for a reforestation project for the Amazon rainforest in South America.

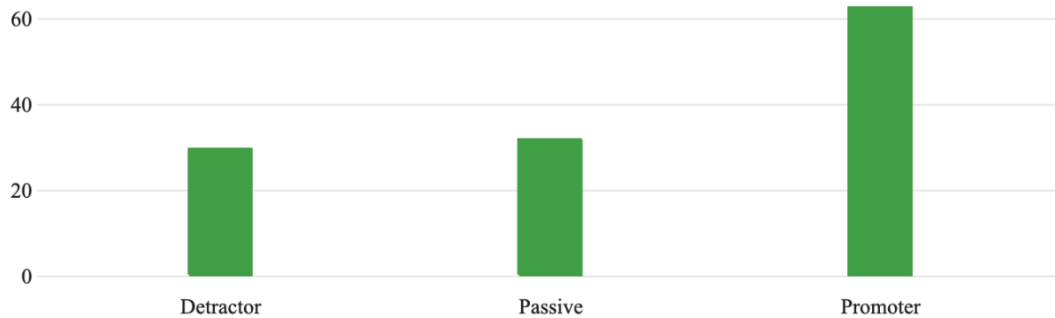


Figure 6: Support of the respondent for a project that is building a renewable energy plant in the United States harnessing wind energy to power rural homes outside of the power grid.

The 124 respondents were also surveyed about their preference across 6 unique types of common offset projects in hypothetical scenarios (see Appendix C). The top three hypothetical projects that respondents promoted were a tree planting project in Richmond (61%), a wind energy investment to power U.S. homes (51%), and a reforesting project in the Amazon

rainforest (42%) (Figures 4-6). Of the 124 respondents, about 1 in 4 (25.8%) would support all 6 of the projects.

The 8 respondents who identified as faculty and staff were asked about their willingness to pay to offset a round trip, transcontinental flight; a round trip flight within the continent; and a school year's worth of commuting by car. The willingness to pay from this section of the survey had extremely large variability (5970.1, 600.0, and 4875.0 respectively). Due to both the small sample size and this variability, the results from this question have little significance and will not be discussed.

### *Comparative Analysis*

An important aspect of the purpose of this proposal was to find an offsetting partner who met the following criteria:

- Provide a portfolio of accredited offsets
- Include forest based (LULUCF) offsets within their portfolio
- Sell offsets at a reasonable price

<i>Company Name</i>	Type of Company	Current Clients/Partners	Services Offered	Relevant Offset Projects	Certifications, Standards, and Methodology	Approximate Price
Native	Public Benefit Corporation	Clif Bar, Ben & Jerry's, Ebay, Certified B Corporation	Carbon offsets, Help Build custom projects	Medford Spring Grassland Conservation, Northern Great Plains Regenerative Grazing Project	Gold Standard, Verified Carbon Standard, Climate Action Reserve, American Carbon Registry, Plan Vivo, Climate, Community & Biodiversity Alliance	\$15.50/ton for one-time purchase in their current project
Pachama	Enterprise	Microsoft, Shopify, Netflix	Carbon offsets, API Integration	Various reforestation projects in the Americas	Climate Action Reserve, Verified Carbon Standard (in addition to self-verifying the projects)	\$18.70/ton for one-time purchase into their entire portfolio
We Are Neutral	501(c)3 Environmental Non-profit	Partnered with University of Florida, B Lab	Free offset consultation, Carbon offsets	Personalized reforestation projects local to the investor	Climate Action Reserve, Verified Carbon Standard (in addition to self-verifying the projects)	N/A - 1 tree planted for each transcontinental flight (2 per round trip)

**Table 1:** Comparative analysis of the three viable options to offset emissions: Native, Pachama, and We Are Neutral. These organizations were compared against one another's portfolio, their price, and the types of offsets within their portfolio. This table shows a summary of the findings from my desktop research. Information was extracted from each company's respective website.



I conducted a review of literature and conducted desktop research to explore what providers could be a good fit for this project. I also utilized an offset analysis I conducted in a previous internship and recommendations from my stakeholder interviews. For this analysis, I compared three final offset providers: Native, Pachama, and We Are Neutral (Table 1).

These three organizations have different designations: two are for-profit, and one is non-profit. Additionally, their client base differs. Native provides services to medium-sized corporations, Pachama features larger corporations as their clientele, and We Are Neutral focuses on servicing small-to-medium enterprises. Pachama and We Are Neutral provide reforestation offsets in their portfolio (and Pachama exclusively provides reforestation projects). Native has LULUCF offsets within their portfolio but does not provide reforestation offsetting projects. All three offset providers utilize widely recognized third parties and methodologies to verify their projects, and both Pachama and We Are Neutral take this a step further by conducting their own research on the projects before selling them.

Although I was unable to get in contact with Native and Pachama for an estimate on the pricing of travel carbon offsets, I took the pricing for individual offset purchases from their websites for a rough comparison. I assumed that the amount of offsets necessary to purchase from study abroad emissions would be cheaper than the posted price, since price typically goes down as more tons of offsets are purchased.

## **Discussion**

Following my methodology, I propose that the OIE implement a study abroad-specific sustainability-oriented program, which I will call the Green Passport Program (GPP). The goal of the GPP will be a program which recognizes students who are sustainably minded academic travelers and connects them to other students to widen the scope of the community's understanding of sustainability across an array of disciplines, backgrounds, and countries.

### *GPP Format and Timeline*

The University of Richmond defines sustainability as “creating environmental, social, and economic conditions that foster health and well-being for people and the natural world in this generation and generations to come” (Office for Sustainability 2022). This definition is purposefully wide in scope, so that stakeholders across a wide range of backgrounds can integrate sustainability within their lives. Within the span of the GPP, this definition can support actions such as decreasing an individual's footprint while abroad. However, for a Political Science major, this could mean learning about policies which create equitable living opportunities for all and thinking critically about why policies may differ in their own community. This is one example of many ways to apply the University's definition of sustainability within the context of a liberal arts education. Moreover, by applying this definition to the context of a student's education at the University of Richmond, the OIE would be supporting the values of the University: Student Growth, Pursuit of Knowledge, Inclusivity and Equity, Diversity and Educational Opportunity, Ethical Engagement, and Responsible Stewardship (University of Richmond Strategic Plan). The proposed program is based on the idea that sustainable thoughts will lead to sustainable actions, which will in turn cultivate a sustainable mindset.

This proposal works in tandem with the current sustainability initiatives because the University cultivates a space that sparks an interest in learning more about sustainability and how the individual can get involved in the context of their own lives. The Office for Sustainability has strong initiatives which encourage sustainable thoughts, such as Introduction to Sustainability seminars and providing programming and events for students to attend. The OIE can give students the opportunity to act on these desires engage in sustainability while they are abroad.

Moreover, reciprocity has been found to be an important aspect to influence engagement in stakeholder groups (Cialdini 1984). This idea of reciprocity can be utilized by providing offsets to students, and asking them to engage in more sustainable behaviors can serve as the way which students can “give back” to the OIE. I believe that by offsetting the flight of a student and promoting this aspect of their abroad trip, especially considering the OIE offers reimbursement of transcontinental flights, students will feel more inclined to understand and reciprocate the sustainable gesture. To add, students who study abroad are already more likely to possess a more globalized view of the world, and when they study abroad with sustainability in mind, these effects are heightened (Tarrant et al. 2015). By being primed through being provided with an offset for their travel, students can get a head start to this method of thinking.

<b>Pre-Departure</b>	Application to program ( <i>with or without funding</i> ) and acceptance
	Attend a workshop on sustainability abroad
<b>At Host Institution</b>	Take note of successes and failures while abroad
	Attend monthly Zoom calls to learn from peers at other institutions
<b>Pre-Arrival</b>	Begin writing report about the experience
<b>Post-Abroad</b>	Submit report and share a short presentation on the experience
	Engage with newly admitted students in a mentorship capacity

**Table 2:** A potential timeline for the Green Passport Program (GPP), which shows the timeline for student engagement before, during, and after abroad within the scope of the program.

The GPP will be an application-based program which recognizes students as sustainable-oriented academic travelers. See Table 2 for timeline. The program will include a pre-abroad portion which educates students on how to adapt to living more sustainably within their host institution. As a part of the program, students will have their flight offset by the University, the student will have the ability to apply for funds on a case-by-case basis for research, entrepreneurship activities, and to engage in the community. While they are abroad, I propose opportunities for students to engage with one another in Zoom calls to share what they are learning in their respective institutions, which could help to spur creative thinking across borders. It may seem optimistic that students would find engaging in sustainability while abroad to be a stimulating and fulfilling aspect of their studies, but there are studies which bolster the success of focusing on sustainability while abroad. For example, Zhang and Gibson found that students who studied abroad and focused on sustainability saw positive changes in their behavior, lifestyle, and professional development (2021). One of the most impactful aspects of this study was not only these behavioral changes, but the narratives which they shared about how they brought what they had learned in their program back to their families, friends, and local communities.

Students will be asked to write a report on their experience abroad and how it expanded their views on sustainability. They will be asked to outline their successes, failures, and engagement opportunities they took advantage of while at their host institution. After returning from their time abroad, students will be able to engage with other students in a mentorship capacity and exchange experiences through presentations about their journey to widen their understanding of sustainability around the world, as well as their understanding about how sustainability can be applied within the scope of different areas of study. As a result of their work

in the program, they will also be provided a cord at graduation. While it may seem that students wouldn't want to write a paper or engage in sustainability in this way, an overwhelming majority over 80% of student respondents within my survey expressed interest in these aspects of the program (Figures 1-3). While not all students who demonstrated interest would end up studying abroad, and fewer may end up applying, it is important to note that students desire to have access to a program such as this when they are engaging with the OIE for their study abroad journey.

### *The Pilot*

<b>Aspect of Program</b>	<b>Cost</b>
<i>Offsetting Student Flight</i>	\$50/student
<i>Student Grant</i>	\$500/student
<i>Honor Cords</i>	\$10/student
<i>Total: \$3,700 (Note: If all 20 students received \$250 in funds, the total would be \$8,000)</i>	

**Table 3:** A calculation of the pilot program of the Green Passport Program (GPP) costs. The student flight offset was calculated estimating 2 tons of CO<sub>2</sub>e from one student taking a round trip transatlantic flight with the price of the offset costing \$25/ton, including tax. Student grants were capped at \$500, which is similar to the amount provided for the Summer Weinstein Grants for students. Honor cord amount was estimated from the website Academic Apparel.

I propose launching this program either for the Spring 2023 or the Fall 2023 study abroad semester. I recommend keeping the program small, with about 20 students participating in the first semester. Not all students would want or need extra funding for their semester abroad, so I recommend capping the students who receive this funding at about 5 so that they can have personalized guidance from the OIE, given the open nature of the program with few previous projects to reference. The cost will be relatively low for this pilot. If the pilot were planned with the assumption of 20 students participating, the total would amount to less than \$4,000—if all 20 students received some type of funding to engage in sustainability related initiatives, the total for one semester would be \$8,000 (Table 3).

I would recommend that the OIE use We Are Neutral as their offset partner for this program. The University of Richmond already has a relationship with the company through the Office of Admissions, and they utilized forest-based carbon offsets. Moreover, because of this existing relationship, the cost of the offsets would likely be cheaper for both offices than if the OIE were to utilize a new company, and this especially holds true if the OIE were to purchase a large amount of offsets. The stakeholders surveyed preferred local offsets. While We Are Neutral may not be able to provide highly localized offsets, such as the tree planting project in Richmond, it would be important to consider offsets local to Virginia or the Southeast in order to align with stakeholder preferences.

#### *Operational Aspects and OIE Commitment*

I could not fully complete recommendations or samples for the operational aspects of this program, given the timeline of this proposal. However, there are a few aspects of this pilot program which would rest in the hands of the OIE if it were to launch.

First, the OIE would need to continue conversations with We Are Neutral. Given the existing previous relationship, as well as their ability to send quotes to potential clients for free, they are an ideal choice for the OIE to continue this discovery phase and determine the amount they would like to offset. As of the 27<sup>th</sup> of April, they have not yet gotten back with an estimation based on the 2018-19 emissions of study abroad travel, but I am hopeful that these conversations will continue with the We Are Neutral team.

Additionally, the application and review process will need to be set up by the OIE. I suggest that the application of the GPP program would be accessible to students who request more information within their preliminary study abroad application, so that they can submit

materials separately. I suggest that the application be based on a short essay stating why the student is interested in engaging with sustainability while abroad.

Finally, there would need to be a staff member who acts as a program coordinator, planning the pre-travel informational meeting (which could work in partnership with the Office for Sustainability), the Zoom meetings while students are abroad, the check-ins with students who receive grants, the mentorship opportunity for students, and purchasing of honor cords for graduating seniors.

#### *Further Recommendations*

The idea previously brought up regarding reciprocity can be a powerful tool to engage students in sustainable behavior, regardless of their status or engagement in a program. For example, Burger et al. found that individuals in a study returned a favor to a confederate (or individual who acted as though they were part of the participant group), even though the favor would not have been visible to the confederate (2008). This means that even though there may not be anyone “checking in” with an individual, if someone provides them a favor, they may be more likely to subconsciously engage in reciprocity. This is applicable to my recommendation for the OIE to purchase offsets for the whole study abroad program. While it may seem that students wouldn’t engage in sustainable initiatives directly as a result, by alerting them to this sustainable choice, students may achieve the goal of their eyes being “oriented towards sustainability” before they even step off the plane in their host country. Moreover, the OIE wouldn’t be alone in this implementation. With the Office of Admissions implementing offsets for their unavoidable emissions, it has become clear that the goal of sustainability is not to abate from activities which benefit the University of Richmond community; however, the goal is to

find solutions to problems in order to live more harmoniously with our environment, all while encouraging positive choices.

### *Limitations*

There were a few limitations of this study. First, I understand that I did not paint a full picture about carbon offsets for survey participants. In the future, instead of a survey, I recommend community meetings, which can better engage stakeholders in the full picture about the difficulties with the current carbon offset market. I believe that by combining this method with a traditional survey, stakeholders can be informed about carbon offsets and share their preferences with the University.

Additionally, the inability to gather sufficient data from faculty and staff was a limitation on my recommendations for a program for faculty and staff travel, as it relates to the Office of International Education. I recommend that students who would like to capture this stakeholder group share the survey with committee groups and list-servs, leaving the survey open for a longer period of time and sending reminders so that they are encouraged to answer. Unlike students, faculty and staff seemed less motivated by the cash prize, and most of the faculty and staff respondents did not leave an email to enter into the contest.

Lastly, an important limitation was my access to offset providers as a student. I have found that it can be difficult to present oneself as a student and ask companies to provide data which may not provide a return on investment. Again, I recommend that students working in a similar situation reach out as early and frequently as possible to increase the rate of response by companies, and to not be discouraged by a lack of response. Although I faced limitations, I am thankful that most of my project went as planned, and that I was able to analyze sufficient data to draw my conclusions.



## **Conclusion**

Truly, this proposal is the beginning of a longer conversation and journey in discovering how to best orient students towards sustainability while they study abroad. Furthermore, this project can have implications for how both the OIE and other departments at the University of Richmond implement programs such as the GPP into their operations. Sustainability has a much wider definition than most individuals will give it credit for, and as a liberal arts institution, it is the University and its faculty and staff's duty to expose students to the full scope of the word, as defined in our Sustainability Plan.

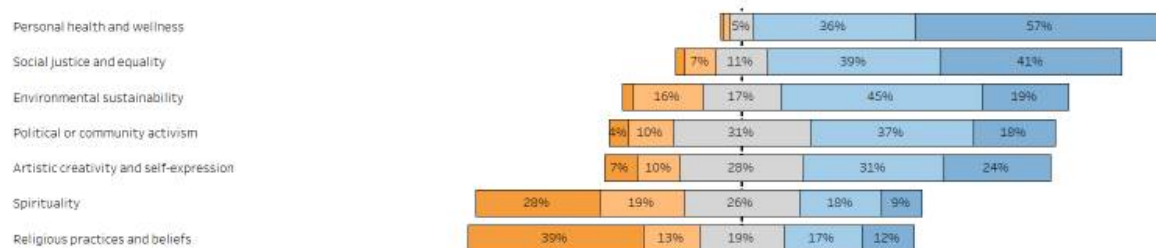
Whether or not this proposal leads to a longer conversation about how to engage students in sustainability while they study abroad, I am hopeful that the OIE can find this proposal as a strong jumping off point to engage in further conversations with other departments and the Office of Sustainability in order to build partnerships and meet our net zero goal.

## Appendix

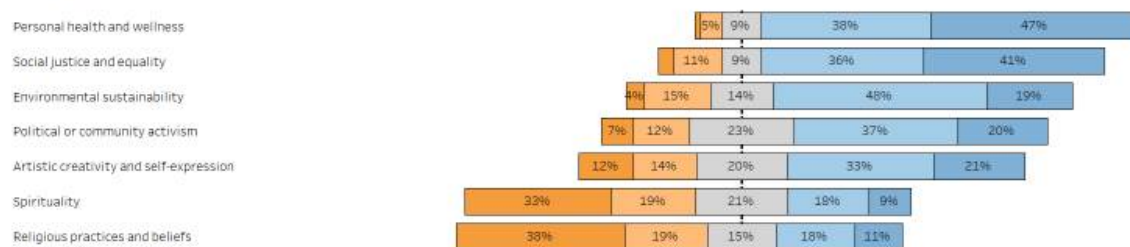
### Appendix A: Admitted Students Survey Results

How Important are the following to your personal life?  
 Not Important | Somewhat Important | Neutral/Indifferent | Important | Very Important

#### Matrics



#### Non-Matrics



This set of graphs shows survey results from Matrics (first year students) and Non-Matrics (students who were admitted but chose not to attend) of the University of Richmond.

Information received from Stephanie DuPal from the Office of Admissions.

## Appendix B: Modified SWOT Analysis from the Office of International Education

<p><u>Strengths</u></p> <ul style="list-style-type: none"> <li>- Demonstrated interest in merging sustainability with international education</li> <li>- Bandwidth for funding through Dean’s Discretionary Fund</li> </ul>	<p><u>Opportunities</u></p> <ul style="list-style-type: none"> <li>- Engage with student interested in sustainability</li> <li>- Encourage interest of prospective students</li> <li>- Help the Office for Sustainability meet their carbon neutral goal</li> </ul>
<p><u>Weaknesses</u></p> <ul style="list-style-type: none"> <li>- Staff bandwidth to explore opportunities</li> <li>- Inability to fund offsets for entire program of students (&gt;\$20/student)</li> </ul>	<p><u>Asks</u></p> <ul style="list-style-type: none"> <li>- Plan for a supplementary grant for students interested in sustainability while abroad</li> <li>- Help students travel with “eyes oriented towards sustainability”</li> </ul>

## Appendix C: Qualtrics Survey Questions

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### Start of Block: Demographic Questions

Please choose your status at the University of Richmond (2021-2022 School Year)

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If you are a current student, what is your current standing?

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Did you study abroad during your time at the University?

### End of Block: Demographic Questions

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### Start of Block: About Carbon Offsets

What are carbon offsets?

Carbon offsets are reductions in greenhouse gas emissions to the atmosphere. Offsets can be generated in many ways, such as by planting trees that absorb carbon dioxide (CO<sub>2</sub>) from the atmosphere as they grow. For these emissions reduction projects to generate carbon offsets they must meet a series of requirements, including: internal monitoring, external verification, and a system of accountability, should the project fail to accomplish its climate impact goal.

“A great way to visualize carbon offsets is by looking at a bathtub. The tub is filling, and we are trying to keep it from overflowing,” says Mark Alan Hughes, a professor at the University of Pennsylvania. In this analogy, the bathtub threshold is the global mean temperature, and we are trying to keep the climate from breaching that threshold. What contributes to the global mean temperature, the faucet in this analogy, are greenhouse gas emissions. Carbon offsets are designed to act as a drain, a system to release some of the water in the bathtub.

What are the benefits of carbon offsets?

There are many benefits to carbon offsets. Emissions such as these may not be feasible to reduce and may not have viable renewable energy alternatives. So, an organization can continue with activities such as these that release emissions, like taking flights. Additionally, carbon offsets can be locally sourced, allowing for organizations to positively impact the communities they operate

in. If they are global, they can give benefits such as high tree cover in an urban environment or bringing sustainable energy to a rural community. Along with these direct benefits, carbon offsets can provide nuanced and highly effective co-benefits.

What is an offset co-benefit?

Offset co-benefits are any project benefits other than the primary goal of a carbon offset project, which is to reduce the atmosphere's greenhouse gases levels. Common co-benefits include financial savings, job creation, improved air quality, increased animal habitat and public recreation space, reduced health risks, reduced risk of water contamination, and the creation of educational value.

Excerpts from Duke and University of Pennsylvania, with edits for readability.

**End of Block: About Carbon Offsets**

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**Start of Block: Post-Reading Questions**

1 Before reading the passage, were you familiar with carbon offsets?

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2 After reading the passage, what is your view on carbon offsets?

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3 After reading the passage, how useful do you think carbon offsets can be for the University of Richmond?

**End of Block: Post-Reading Questions**

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**Start of Block: If UR were to implement offsetting strategies...**

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*(Note: Question 4 is the same question, just a different format to determine ranking preferences)*

5 Of the above options, rank how you would want the University to prioritize if they were to consider offsetting avoidable emissions.

- \_\_\_\_\_ Social benefit (1)
- \_\_\_\_\_ Local benefit (2)
- \_\_\_\_\_ High return on investment (3)
- \_\_\_\_\_ Accreditation by a recognized third party (4)
- \_\_\_\_\_ Educates the campus community (5)
- \_\_\_\_\_ Reflects what is important to the campus community (6)
- \_\_\_\_\_ Cost effectivity (7)

**End of Block: If UR were to implement offsetting strategies...**

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**Start of Block: Hypothetical Scenarios**

6 Would you like the University to offset travel-related emissions?

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7 Imagine you are about to study abroad. If the University paid to offset your travel to a study abroad location, would you be willing to engage in sustainable initiatives at your abroad institution? (This could be in the form of community engagement, scientific research, entrepreneurial activities, etc.)

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8 In that same scenario, would you also be willing to write a short report on your findings or learnings from your experience?

**End of Block: Hypothetical Scenarios**

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**Start of Block: List of strategies for offsets and what they agree with**

How likely would you be to support each offset program if it were negating your emissions from university-sponsored travel?

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9 A tree planting project in Richmond, Virginia's lower-income neighborhoods which have low tree cover and make the area extremely hot in the summertime.

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10 A project that provides efficient cookstoves to families in Central America, where their old cookstoves burn more fossil fuels and cause breathing problems.

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11 A reforestation project for the Amazon rainforest in South America.

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12 A project that is building a renewable energy plant in the United States harnessing wind energy to power rural homes outside of the power grid.

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13 A reforestation project in sub-saharan Africa which slows the desertification of the Sahara, where the desert is spreading into non-desert land due to climate change.

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14 A project which purchases land in an effort to conserve it and prevent it from being used for logging or unsustainable farming practices in Asia.




**End of Block: List of strategies for offsets and what they agree with**

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**Start of Block: WTP**

15 How much would you be willing to pay out of pocket to offset emissions from these activities? (in US dollars)

0 40 80 120 160 200 240 280 320 360 400

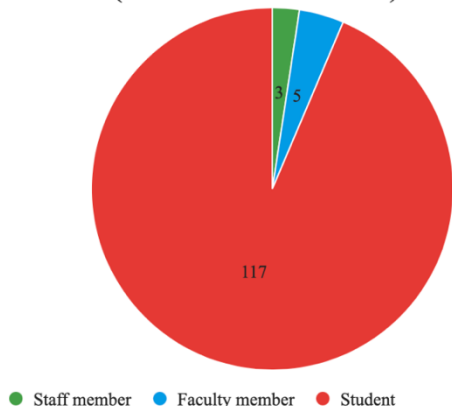
A round trip transcontinental flight (1 ticket) ( )	
A round trip intercontinental flight (1 ticket) ( )	
Driving to and from the university (school year's worth of trips) ( )	

**End of Block: WTP**

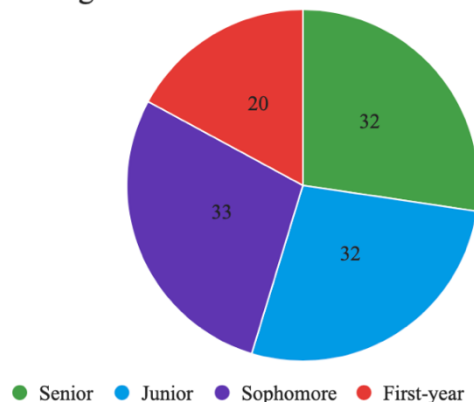
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## Appendix D: Demographic Data

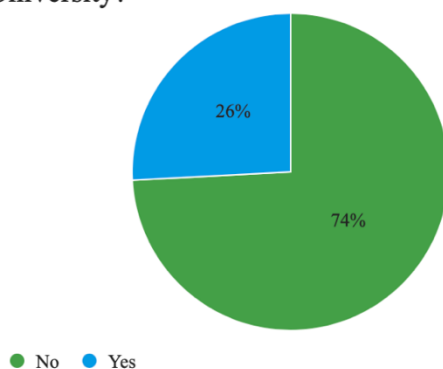
Please choose your status at the University of Richmond (2021-2022 School Year)



If you are a current student, what is your standing?



Did you study abroad during your time at the University?



The pie charts above show the demographic data of the 124 respondents of the survey. Students were asked what year they were for the 2021-22 school year, as well as whether or not they participated in a study abroad program to date during their time at the University.



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