

# Best Practices for Scope 3 Greenhouse Gas Emissions from Air Travel for Higher Education Institutions: *Accounting and Mitigation*

## Introduction

As part of its Climate Action Plan (CAP), Boston University (BU) has committed to the goal of reducing its carbon emissions to net-zero by 2040. Our fall 2020 Campus Climate lab research, conducted during October 2020 through January 2021, found that employee air travel emissions could be between 9,880 and 29,940 MT CO<sub>2</sub> and may significantly contribute to BU's total Scope 3 emissions. A December survey of faculty and staff revealed that many expect to fly for work as much as they did in 2019 once pandemic safety restrictions have been lifted, but that just 66% of their air travel is necessary for their jobs<sup>1</sup>. These findings suggest that both flight reduction programs and carbon offsets will play important roles in addressing the emissions associated with employee air travel, and by extension reaching BU's 2040 goal.

In the second phase of work, summarized in this document, we set out to further evaluate the role these strategies may play in the University's future efforts to address employee air travel emissions, which other universities can learn from and adapt for their institutions. To do this, we (1) surveyed faculty about the methods they use to book and pay for trips to better understand how much travel the University is responsible for and how to track it; (2) reviewed and evaluated travel card purchase data for its use in narrowing the uncertainty bounds on our accounting from the fall; and (3) partnered with students in the Questrom School of Business Masters in Managerial Studies (MSMS) program to develop recommendations for adopting an offset purchasing program.

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<sup>1</sup> Henning and Vilallonga, 2021:

[http://www.bu.edu/urbanclimate/files/2021/04/Henning\\_Vilallonga\\_Final\\_CCL\\_Report\\_Fall2020.pdf](http://www.bu.edu/urbanclimate/files/2021/04/Henning_Vilallonga_Final_CCL_Report_Fall2020.pdf)

## Scope 3: Drawing Boundaries of Responsibility

Like the U.S. EPA and other institutions, BU classifies its greenhouse gas emissions into three broad categories: Scope 1 or direct emissions, including gas and oil burned on campus and fleet vehicle emissions; Scope 2 or indirect emissions, including those from purchasing steam and electricity; and Scope 3 or induced emissions, including emissions from travel by community members to and from campus, waste disposal, purchasing supplies, and dining services. In 2016, BU's Scope 1 and 2 emissions attributed to its fossil fuel use and electricity purchasing were approximately 129,400 MTCO<sub>2</sub>e. On the other hand, Scope 3 or induced emissions from transportation, purchasing, and waste disposal have not been formally counted but are estimated to be on the order of 200,000 MTCO<sub>2</sub>e<sup>2</sup>.

One difficulty in accounting for Scope 3 emissions is determining who is responsible for which emissions. This can be challenging in air travel at higher education institutions because there are many different situations that induce air travel. In a spring survey of faculty at BU (*Appendix A*), it was evident that faculty book and pay for their flights in a number of ways, for a number of reasons (Figure 1).

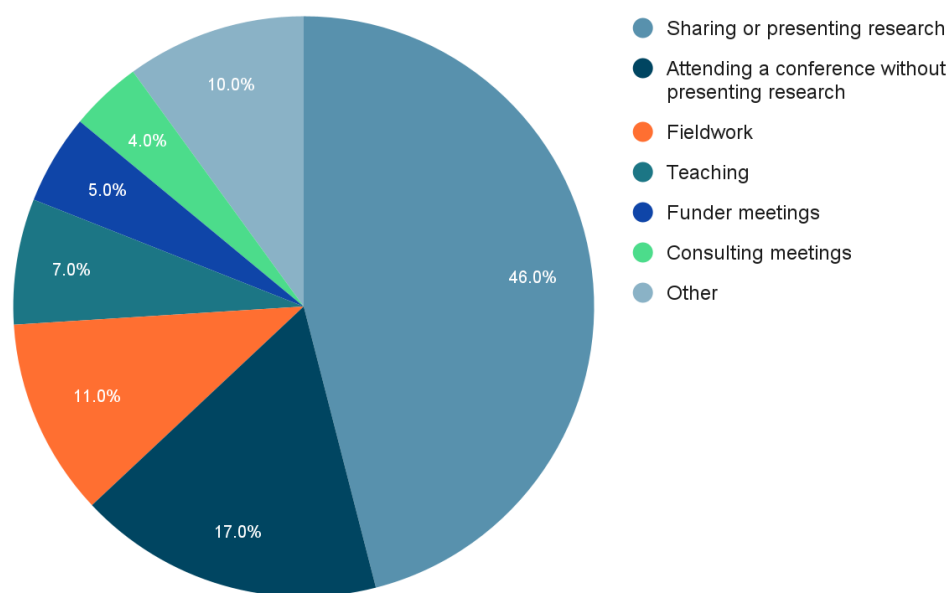


Figure 1: Reasons for faculty air travel at BU; results from the April 2021 survey.

<sup>2</sup> Climate Action Task Force, 2017:

[https://www.bu.edu/climateactionplan/files/2017/12/ClimateActionPlan\\_Report\\_FINAL.pdf](https://www.bu.edu/climateactionplan/files/2017/12/ClimateActionPlan_Report_FINAL.pdf)

Though a flight may be booked directly by a faculty member, it could be reimbursed by an outside organization, for example through a grant. Air travel might also be booked on behalf of a faculty member by an outside organization. To reduce confusion and draw boundaries around the Scope 3 emissions of a higher education institution, we adopt the definition that an organization's Scope 3 emissions from air travel are defined by *who pays for the associated flights*. For example, if the University pays for a faculty member to fly for research purposes, the University would be responsible for these emissions. If an outside organization books flights on behalf of a staff member, then the outside organization is responsible for the resulting Scope 3 emissions (Figure 2). This approach to defining Scope 3 emissions for air travel has already been implemented at various institutions including Arizona State University, the University of California, Los Angeles, and the University of Edinburgh.

It is important to note that a financial baseline for Scope 3 accounting in air travel also implies that flights taken by guest speakers whose travel is paid for by the host university is the responsibility of the host. This is an important distinction to note so that these emissions are taken into account by one university. This methodology is dependent on other universities using the same definition for Scope 3 emissions in order to ensure that all flight emissions are taken into account once and only once. As a result, additional community outreach and collaboration between institutions may be needed in order to maintain consistency in accounting and take responsibility for greenhouse gas emissions appropriately.

Linking the responsibility of Scope 3 emissions from travel to financial responsibility mostly meshes well with the data easily available from a university's financial records regarding payment for faculty travel. However, we have not been able to easily access financial data for air travel for invited guests; tracking this requires a more meticulous approach to data collection and extraction. As a result, BU has some Scope 3 emissions associated with air travel that are not captured in this team's analysis, which focused on the travel of BU faculty.

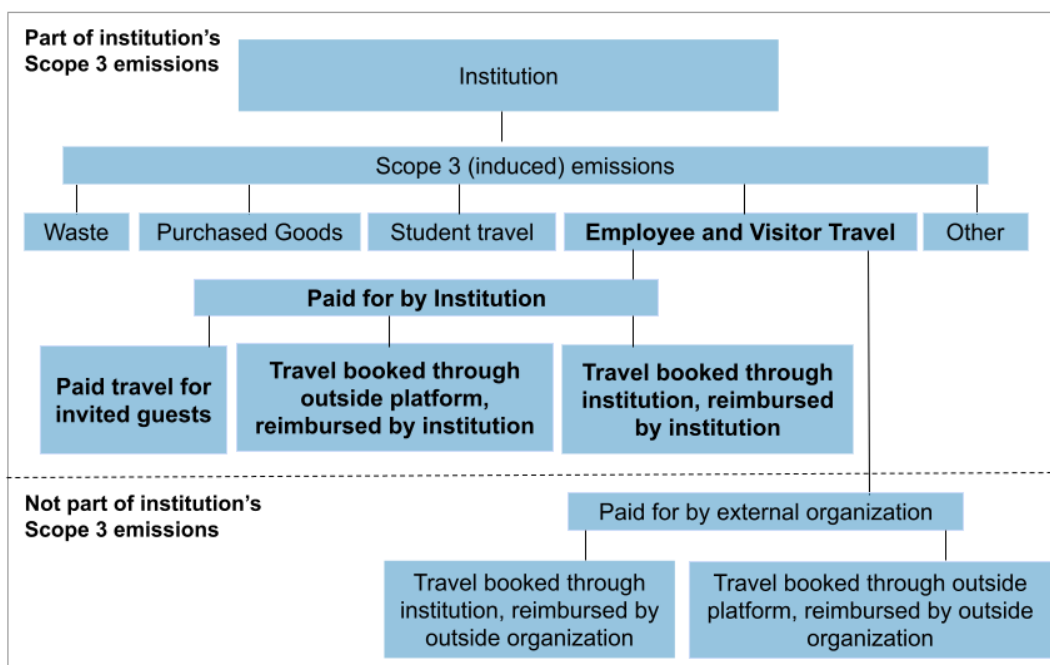


Figure 2: Organizational and operational boundaries of universities for Scope 3 air travel emissions accounting. Contributions to the scope 3 emissions that we focus on are labelled in bold font.

## Data Collection

Our analysis this spring incorporated both financial data associated with BU employee air travel and responses from a survey of BU faculty. These different data types aided our analysis of travel patterns and preferences from two different perspectives.

When looking at travel from the perspective of financial data, there are many factors that must be taken into account. First, air travel data collection is particularly difficult at a university due to the many different situations that require travel. This is evident through inconsistent flight data that comes from a variety of platforms, as is the case for flight records at BU. Although the university-wide travel booking platform, Concur, is officially mandated for making travel accommodations, in practice many employees do not follow this policy<sup>3</sup>. Instead, employees may book flights through third-party platforms (such as Expedia or Kayak), where they can get a lower rate, more flexibility, or rewards points, and then request reimbursement for their purchase. While this may get employees a better deal on travel, it raises many issues in collecting a robust dataset of employee air travel as the reimbursement process does not provide the same data as the mandated travel booking platform. Information such as

<sup>3</sup> Henning and Vilallonga, 2021:

[http://www.bu.edu/urbanclimate/files/2021/04/Henning\\_Villalonga\\_Final\\_CCL\\_Report\\_Fall2020.pdf](http://www.bu.edu/urbanclimate/files/2021/04/Henning_Villalonga_Final_CCL_Report_Fall2020.pdf)

distance travelled, origin and destination, ticket class, and airline are often missing from reimbursement records of flights booked through outside platforms, which can make it impossible to accurately synthesize information about all employee air travel.

Data collection for Scope 3 emissions is extremely important, as it is challenging to reduce the emissions induced when the starting amount is unknown or not known accurately. Therefore, it is vital to standardize the travel booking process in a way that allows for accurate and complete data collection. This may mean stronger enforcement of the use of the university-wide travel booking platform, a more data-driven reimbursement process, and/or altering the travel booking platform (see *Mitigation*). These solutions will reduce the amount of uncertainty and estimation required in accounting for Scope 3 emissions, as well as reduce the statistical biases tied to limited data collection.

Survey data related to faculty flight behavior was similarly important for our analysis of university air travel. This information provides context for how flights are booked, why faculty decide to travel at a given time, and how we might be able to influence their behavior to reduce emissions through future programs. Challenges also arose in this data collection process, as the survey information collected was dependent on individuals' willingness to participate and the ability of the University to disclose information about its employees.

## Data Analysis

To begin our analysis of BU employee flight data, we extracted extensive information about recorded trips from Concur records, including the distance flown, origin and destination, trip date, ticket class, and airline. To calculate the emissions associated with each flight, we turned to the International Civil Aviation Organization (ICAO)'s Carbon Emissions Calculator (ICEC)<sup>4</sup>. The underlying assumptions and calculations involved in this method are described in detail in the ICAO Carbon Emissions Calculator Methodology report<sup>5</sup>. Additionally our December 2020 survey of BU staff and faculty further revealed that Concur usage may be as low as 33%<sup>6</sup>, which means that our emissions estimates may fall far short of the real totals.

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<sup>4</sup> <https://www.icao.int/environmental-protection/Carbonoffset/Pages/default.aspx>

<sup>5</sup> ICAO, 2018:

[https://www.icao.int/environmental-protection/CarbonOffset/Documents/Methodology%20ICAO%20Carbon%20Calculator\\_v11-2018.pdf](https://www.icao.int/environmental-protection/CarbonOffset/Documents/Methodology%20ICAO%20Carbon%20Calculator_v11-2018.pdf)

<sup>6</sup> Henning and Vilallonga, 2021:

[http://www.bu.edu/urbanclimate/files/2021/04/Henning\\_Villalonga\\_Final\\_CCL\\_Report\\_Fall2020.pdf](http://www.bu.edu/urbanclimate/files/2021/04/Henning_Villalonga_Final_CCL_Report_Fall2020.pdf)

To explore BU employee air travel further, we examined specifically faculty travel and booking behaviors. Travel by faculty is more complex than that by staff, because faculty members often receive grants or outside funding to complete their research, which often includes paying for trips to a research site, or to present at a conference. A May 2021 survey (Appendix A) of 135 faculty members at BU revealed the following booking patterns:

	<b>Booked through Concur</b>	<b>Booked through External Platform</b>	<b>Booked by Outside Organization</b>	<b>BU's Scope 3?</b>
<b>Paid with Travel Card</b>	25%	17%	-	Yes
<b>Paid with Own Card</b>	11%	26%	-	Yes
<b>Paid for by Outside Organization</b>	-	-	13%	No

In addition, 42% of flights were reimbursed with money from a grant; 12% by an external agency or honoraria; and 36% with department funds or through Concur. Of these, only flights reimbursed through the latter two scenarios contribute to BU's Scope 3 emissions, using the financial responsibility model we have outlined above (see *Scope 3: Drawing Boundaries of Responsibility*).

As shown in Figure 1, the survey also revealed that 90% of respondents have traveled by air in their capacity at BU, and that the most common reason for flying was for sharing or presenting research (45% of responses), followed by attending a conference (17%), fieldwork (11%), and other (such as recruitment or research meetings). Future projections of air travel compared to before the pandemic were consistent with our first survey of faculty and staff, with about 44% of respondents expecting the same amount of travel, 38% expecting less, and 4% expecting more. Faculty at BU are clearly frequent flyers, and targeting this facet of employee air travel, especially after a year of wide-reaching adjustments to how we live and work, will be vital for reducing the overall emissions of this sector.

We also explored records of purchases made by BU employees with their travel cards, a dataset provided to us by the Sourcing & Procurement department. This data contains records of each purchase made on the card, including leg of the journey, price, origin, destination, airline, and ticket class, if applicable, and categorical descriptions of each purchase. Those records that represent flights, as

opposed to baggage fees or other modes of travel, are estimated to account for about 75% of all flight records. Unfortunately, this dataset proved to be more challenging to analyze than we expected, owing mainly to the inconsistent form of the data, which is gathered from external sources. A deeper analysis would be both fruitful and challenging for future researchers, and may allow for more precise estimates of yearly emissions from employee air travel. (see *Going Forward: Recommendations for Future Research*).

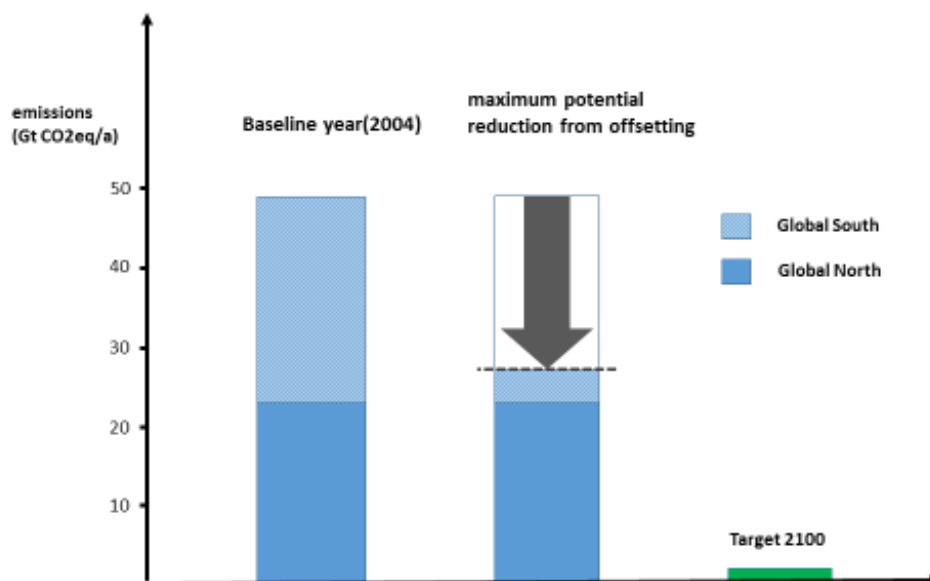
## Mitigation

The most effective way to reduce air travel emissions is by flying less. On a single-year basis, both the number of flights and the emissions associated with these flights increased from 2017 to 2018 as well as from 2018 to 2019. Although travel habits have drastically changed due to the COVID-19 pandemic, the majority of our surveyed faculty and staff stated that they would return to traveling as much as or more than in 2019 once travel restrictions are lifted. This is a pivotal time in which we should take the opportunity to make systematic changes in how we approach mitigating climate change, including reevaluating the need for frequent business and research travel. As travel restrictions are lifted, we should strive to avoid simply returning to flying increasingly more year after year and instead encourage the pursuit of new strategies that have been established during the COVID-19 pandemic, such as teleconferencing and working from home where feasible. There is also evidence that advertising and improving the ease of using alternative forms of transportation for short-distance travel could assist in decreasing frequent flyers' air travel and the associated emissions. Our fall research revealed that all of the most frequent domestic flights are short-haul trips, with destinations for which there are many alternate forms of less carbon-intensive travel. By increasing awareness and rewarding the use of alternate forms of travel, employees will be able to make more informed and emissions-conscious travel choices.

Beyond the primary strategy of reducing air travel when possible, a secondary strategy for addressing these emissions is to purchase offsets equivalent to the estimated emissions induced. Purchasing offsets is most effective when there remain no realistic alternatives to inducing fewer emissions, such as flying less or using less carbon-intensive fuels, only the former of which lies within the influence of the University and the BU community. In theory, if the emissions from the Global North were only reduced by offsets, global emissions would not be lowered enough to reach the emissions targets set by the Paris Climate Accord to avoid 2°C of warming, much less 1.5°C (Figure 3)<sup>7</sup>.

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<sup>7</sup> Atmosfair: [https://www.atmosfair.de/en/standards/good\\_offsetting\\_practices/](https://www.atmosfair.de/en/standards/good_offsetting_practices/)



*Figure 3: Maximum global potential savings from offsetting. If all emissions from the Global North were offset by an equivalent reduction in the Global South, global emissions would not be decreased to the extent necessary to reach the 2°C target.*

According to the EPA, offset projects must be “deemed additional; the resulting emissions reductions must be real, permanent, and verified; and credits (i.e., offsets) issued for verified emissions reductions must be enforceable.”<sup>8</sup> These requirements are important for achieving real emissions reductions to compensate for an organization’s unavoidable Scope 3 emissions. For example, offsets may be useful for addressing the remaining emissions induced by necessary long-haul flights by BU employees, after steps have been taken to reduce the number of trips taken in the first place.

Through our partnership with the students in Questrom’s MSMS program, we identified six attractive programs that meet the EPA’s standards and are also both Gold Standard and VCS Certified (see *Appendix B*). The students also identified the potential for developing a project in Boston, through a partnership with A Better City (ABC):

<sup>8</sup> EPA Green Power Partnership, 2018:

[https://www.epa.gov/sites/production/files/2018-03/documents/gpp\\_guide\\_recs\\_offsets.pdf](https://www.epa.gov/sites/production/files/2018-03/documents/gpp_guide_recs_offsets.pdf)



Landfill Gas Energy Project	
Project Overview	A local/national offset program we recommend partnering with a non profit organization and we want to go local. It can be with ABC as both BU sustainability and ABC works for the betterment of the society. As ABC is already working on sustainable buildings that are energy efficient. We suggest that both ABC and BU work with the municipal office and develop a landfill carbon offset program. Municipal solid waste landfills are the third largest source of human-related methane pollution in the United States. Methane—a greenhouse gas that is 25 times more powerful than carbon dioxide—is a major contributor to climate change. The project will capture the methane gas that would be emitted from the landfill and which pollutes the environment. To build a landfill gas (LFG) collection system where the methane gas would be collected into pipes before being used to generate electricity. The energy produced could be used by ABC.
Location	Boston, MA
Cost	<a href="https://www.epa.gov/lmop/download-lfgcost-web">https://www.epa.gov/lmop/download-lfgcost-web</a>
Co-benefit	Educational value: Research opportunities for the faculty and students on GHG, energy, and environment. Internship opportunities for students at ABC or Mass gov. Social benefit: Job creation, local community development Environmental benefit: Reduction in emission of methane gas

In developing a policy or program to reduce flights, purchase offsets for the remaining necessary trips, or both, the University must keep one important element in mind: community engagement. “To fully realize the potential of the Climate Action Plan, strong participation by the BU community will be necessary. Getting buy-in from the community will help maintain and enhance emissions-related savings that we anticipate from Climate Action Plan initiatives”<sup>9</sup>. The combined efforts of the BU

<sup>9</sup> Climate Action Task Force, 2017:

[http://www.bu.edu/climateactionplan/files/2017/09/Community\\_engagement\\_2017-09-201.pdf](http://www.bu.edu/climateactionplan/files/2017/09/Community_engagement_2017-09-201.pdf)

Sustainability, Operations, Strategic Planning, and other departments at BU have since been crucially involving the community and increasing engagement with existing programs that advance the CAP. Addressing employee air travel should be no different.

In addition to identifying viable and effective offset projects, the MSMS students also devised recommendations for engaging faculty and staff in efforts to reduce the emissions induced by their air travel. We recommend that this engagement be integrated into every part of an employee's involvement at BU, from the onboarding process to possibly Green Office Certification<sup>10</sup>, to existing department communications about travel funding, to Concur and travel card usage training. The recommendations include:

1. Increased outreach about Scope 3 emissions in particular, and the role they play in the University's total carbon footprint
2. Education about the interplay between a flight reduction program and an offset purchasing program, and the importance of tackling reduction first
3. Outreach about offset verification standards, to increase trust in them
4. The importance of accurate tracking of employees' flights for the purpose of calculating the emissions associated with them

The students also determined that the Concur user-interface can be customized to suit a client's particular needs, at the discretion of SAP, the provider of the platform. Some straightforward changes to the platform that can be made in the interest of addressing employee flight emissions include:

1. Displaying the emissions associated with each flight option by default, with an opt-out setting in the account management page
2. Making the airline rewards program setting more visible and accessible to users who wish to utilize their own card to obtain rewards, and get reimbursed for the flight later
3. Incorporating more mandatory fields in the reimbursement side of Concur for flight purchases, such as ticket class and origin and destination airports, to broaden the set of flights for which emissions can be calculated<sup>11</sup>

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<sup>10</sup> BU Sustainability: <https://www.bu.edu/sustainability/how-to/put-your-energy-to-good-use/>

<sup>11</sup> If another calculation method is to be officially adopted, then the additional fields should reflect the variables needed to make these calculations. For instance, other methods we reviewed but ultimately rejected required only the distance travelled on each flight, or simply the overall spend on air travel by the University.

## Going Forward: Recommendations for Future Research

This analysis provides a strong foundation for future research that can further explore Scope 3 emissions accounting and mitigation measures at BU. Though these emissions are more challenging to quantify than either Scopes 1 or 2, these efforts as well as other research at BU provide promising insights into how we can better account for and abate these emissions in the future.

In order to improve flight data collection at BU, we recommend that the University mandate the use of the university-wide travel booking platform for all staff when booking flights and minimize the flights that are reimbursed. This will make analyzing flight data both easier and more accurate. Additionally, modifications to the travel booking system may need to be made in order to improve the user experience and get staff on board with using the system permanently. This may include displaying the emissions induced by an employee's travel, making the travel booking process easier within the platform to encourage use, offering an option to voluntarily purchase an offset at the time of booking, and advertising more sustainable options for travel such as airlines that use sustainable aviation fuels (SAF) or train routes. Overall, more consistent travel logging and data collection will in turn allow the University to more accurately calculate its Scope 3 emissions associated with employee air travel.

To build off of our data analysis, future research could reduce the uncertainties in current Scope 3 air travel emissions calculations by obtaining a more complete dataset (including visitor travel paid for by BU) and performing further statistical analyses of the data. This could also include an analysis of the University's travel card usage. A larger and more representative dataset would help minimize the biases and limitations of our analysis, which comes from only a small sample of the entire University's employee travel. Additionally, a deeper analysis of how to most accurately calculate Scope 3 emissions from air travel could similarly improve the validity of findings moving forward.

Clearly, many challenges remain in reaching an accurate estimate of employee and visitor air travel emissions at BU as well as in creating an optimal mitigation strategy. From increasing the buy-in for using the university-wide travel booking platform to accurately accounting for which flights are paid for by the University and which are beyond our scope, the intricacies of this work are seemingly endless. However, we are optimistic that BU will overcome these challenges in its ambitious commitments to sustainability as we have seen through the university's support of this research. We hope that other universities can follow the example that BU has set in tackling Scope 3 emissions and adapt this information to other institutions going forward.

## Appendix A: Faculty Survey Questions

### Demographics:

1. Which category best classifies your faculty position at Boston University?
  - i. Post-doc
  - ii. Assistant professor
  - iii. Associate professor
  - iv. Adjunct professor
  - v. Full professor
  - vi. Other: \_\_\_\_\_
2. If adjunct: what are the start and end dates of your appointment as adjunct professor?
  - vii. \_\_\_\_\_ start
  - viii. \_\_\_\_\_ end
2. Which school or college at BU is your primary appointment associated with?
  - i. \_\_\_\_\_
3. What department is your primary appointment associated with?
  - i. \_\_\_\_\_
4. Do you have a research group through Boston University?
  - i. Yes
  - ii. No
5. If applicable, how many students (undergraduate or graduate) and postdocs work with you in your group? If this number fluctuates, please provide a range.
  - i. \_\_\_\_\_
6. Does your research involve fieldwork that requires air travel?
  - i. Yes
  - ii. No

### Flight Behavior:

1. How many round trips did you take by plane in 2019 for professional or research reasons?
  - i. \_\_\_\_\_ trips
2. Please estimate the percentage of flights you take in an average year for the primary reason of:
  - i. Sharing or presenting research

- ii. Attending a conference without presenting research
  - iii. Fieldwork
  - iv. Teaching, eg. guest lecturing or traveling with students
  - v. Funder meetings
  - vi. Consulting meetings
  - vii. Networking opportunities
  - viii. Other
3. What are the farthest destinations you traveled to in 2019, and how many flights did you take to these destinations?
- i. \_\_\_\_\_
  - ii. \_\_\_\_\_
  - iii. \_\_\_\_\_
4. What are the most frequent destinations you traveled to in 2019, and how many flights did you take to these destinations?
- i. \_\_\_\_\_
  - ii. \_\_\_\_\_
  - iii. \_\_\_\_\_

#### Booking Behavior:

1. In an average year (pre-COVID-19), what percentage of your professional flights are paid for either directly by or using sponsored program funding from an outside organization, for example the National Science Foundation? Please include travel on a grant by an outside organization.
- a. \_\_\_\_\_%
2. Where do you book these flights, and how are they paid for at the time of booking? Please attach a percentage of each scenario indicating how much of your total air travel each represents.
- a. Book through the Concur booking platform and pay on my personal credit card
  - b. Book through the Concur booking platform and pay on my University travel card
  - c. Book through an outside travel booking platform such as Expedia and pay with my own credit card
  - d. Book through an outside travel booking platform such as Expedia and pay with my University travel card

- e. The outside organization books and pays for these flights on my behalf
  - f. Other: \_\_\_\_\_
  - g. I don't know
3. If these flight purchases are reimbursed, how are they reimbursed?
- a. With money from a grant
  - b. With department funds (through Concur expense)
  - c. They are not reimbursed
  - d. Other: \_\_\_\_\_
  - e. I don't know

Future Travel:

4. Do you anticipate outside-funded travel opportunities decreasing, staying the same, or increasing after Covid-19?
- a. Decreasing
  - b. Staying the same
  - c. Increasing
  - d. I don't know
5. Do you anticipate your overall professional and/or research travel decreasing, staying the same, or increasing after Covid-19?
- a. Decreasing
  - b. Staying the same
  - c. Increasing
  - d. I don't know

If you have any other information or comments regarding your air travel for BU, please leave them here:

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If you would like to enter the raffle for the \$40 gift card to the Boston University Bookstore, please enter your email below:

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## Appendix B: Offset Programs Recommended by the MSMS Students

<a href="#"><u>The Cool Effect Project</u></a>	
Company Overview	<p>Cool Effect works with the world's best carbon-reducing projects, giving people an easy way to effectively fight climate change.</p> <p>Combining science and transparency, <a href="#"><u>The Cool Effect Model</u></a> allows individuals to verifiably reduce carbon emissions and help transform communities around the world.</p>
Location	Greenbrae, California
Cost	\$9.02/MT
Co-benefits	<p><b>Superior Projects</b></p> <ul style="list-style-type: none"> <li>● Listed on international standards with secure registries</li> <li>● 100% additional</li> <li>● Secondary development and social benefits beyond carbon</li> </ul> <p><b>Focused Management Structure</b></p> <ul style="list-style-type: none"> <li>● Committed to reducing carbon emissions and to the activities of the project.</li> <li>● Revenue from the sale of carbon credits is directed to improving the project</li> <li>● Track record of regular involvement and participation in the project</li> </ul> <p><b>Co-Benefits:</b></p> <ul style="list-style-type: none"> <li>● Demonstrate contributions to United Nations Sustainable Development Goals (UNSDGs)</li> <li>● Endorsed by the local community</li> </ul> <p><b>Long Duration</b></p> <ul style="list-style-type: none"> <li>● Committed to long-term quality</li> <li>● Financially sustainable</li> <li>● Committed to long-term crediting</li> </ul> <p><b>Transparency in all aspects</b></p>

<u><a href="#">Bonneville Environmental Foundation (BEF)</a></u>	
Company Overview	BEF empowers businesses to be in balance, providing products, programs, and customs solutions in order to address environmental problems and overall, reduce our carbon footprint.
Location	Portland, OR
Cost	Carbon Offset U.S.: \$10/MT
Co-Benefits	Your purchase, combined with that of other BEF partners, represents a significant funding source that helps ensure continued innovation and development of carbon reduction projects and technology.

<u><a href="#">Sustainable Travel International</a></u>	
Company Overview	Sustainable Travel International seeks “to protect and conserve our planet’s most vulnerable destinations by transforming tourism’s impact on nature and communities.” With a large focus on responsible travel and community engagement, the company helps individuals and companies fund certified offset programs. In the end, Sustainable Air Travel hopes to unite governments and communities towards economic development, green growth, and protection of their natural and cultural assets.
Location	New York, NY
Cost	~\$12.36/MT



Co-Benefits	<p>Sustainable Travel International only selects projects that provide benefits beyond CO2 reduction, such as</p> <ul style="list-style-type: none"> <li>● Protecting biodiversity <ul style="list-style-type: none"> <li>○ Protect, restore, and improve sustainable management of forest ecosystems.</li> </ul> </li> <li>● Creating opportunities for local communities to better their livelihoods and health. <ul style="list-style-type: none"> <li>○ Create new jobs, protect traditional livelihoods and land rights, improve health and sanitation, or fund much-needed community services.</li> </ul> </li> <li>● Coastal Blue Carbon <ul style="list-style-type: none"> <li>○ Protect important coastal ecosystems that store substantial amounts of carbon. Along with sequestering carbon, these ecosystems protect communities from harmful climate impacts and provide habitats for marine life.</li> </ul> </li> <li>● Clean &amp; Efficient Energy <ul style="list-style-type: none"> <li>○ Energy projects decrease carbon generated from energy use.</li> </ul> </li> </ul> <p>All projects align with the UN's Sustainable Development Goals (SDGs).</p>
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400 MW Solar Power Project at Bhadla	
Project Overview	<p>The project activity generates electricity from renewable solar energy, exported to the regional grid system, which is under the INDIAN electricity grid. The project activity reduces human emissions of greenhouse gases estimated to be approximately 694,471 tCO<sub>2</sub>e per year, therefore replacing 732,874 MWh/year of electricity with renewable energy. The project diversifies the mix of power plants connected to the INDIAN GRID, which is mainly dominated by thermal/fossil-fuel based power plants.</p>
Location	Bhadla, Rajasthan, India

Cost	<p><b>\$12.00/ tonne</b>, 4883 carbon credits in stock,  <a href="https://marketplace.goldstandard.org/collections/projects/products/eki-energy-services-gold-standard-foundation-400-mw-solar-power-project-at-bhadla-rajasthan-india">https://marketplace.goldstandard.org/collections/projects/products/eki-energy-services-gold-standard-foundation-400-mw-solar-power-project-at-bhadla-rajasthan-india</a></p>
Co-Benefits	<ol style="list-style-type: none"> <li>1. Currently, SB Energy Corp. has conducted 27 training sessions to educate and build capacity, including: <ul style="list-style-type: none"> <li>○ Raise awareness on how tobacco has impact on the cardiovascular by publish a risk of heart health by tobacco</li> <li>○ Conduct a Firefighting Drill Training to prepare plans to evaluate the standard operating plan for the organization to learn to operate standard procedures required to deliver duties effectively ensuring a safe emergency exit.</li> </ul> </li> <li>2. A medical camp provides knowledge on how to provide nutritious food in the area. The main purpose is to educate people about healthy eating habits and food-preparation methods that enhance the consumption of nutritious ingredients to improve the nutritional value of the diet of local people.</li> <li>3. Increase the employment opportunity for local people.</li> <li>4. Street lights were installed by SoftBank to improve road safety.</li> </ol>

Healthy homes for all in Guatemala	
Project Overview	<p>Microsol is a social business which reinvests 100% of their revenue generated by sale of carbon projects to maintain and expand their projects. They work with local governments and international organisations to define a roadmap to scale up stove implementation.</p> <p>Utstil Naj is a current project operating in Guatemala, Mexico hich partners with local authorities to enhance their understanding on the relations with the community and benefits that they could provide. This project aims to improve the living conditions of the vulnerable rural</p>

	<p>beneficiaries by providing roadmaps to install a stove and promote healthy cooking habits to improve sanity to cooking experiences in a sustainable way. This promotes healthy growth of the people in the local area which raises their living standard and well-being of people in Guatemala.</p>
Location	Guatemala, South of Mexico
Cost	<p>\$18/MT 532 Carbon Credits in stock</p> <p><a href="https://marketplace.goldstandard.org/collections/projects/products/utsil-naj-healthy-homes-guatemala">https://marketplace.goldstandard.org/collections/projects/products/utsil-naj-healthy-homes-guatemala</a></p>
Co-Benefits	<p>Project impacts include health, social, environmental and economic benefits. The improved cookstoves are great tools for women empowerment, allowing them to cook more quickly, but also to reduce the chore of wood and freeing up time for the education of children. These stoves are also more efficient, therefore reducing CO2 emissions and helping to decrease deforestation thus contributing to the conservation and protection of biodiversity.</p> <p><b>Goal 1: No Poverty</b> – This project benefits families living in poverty, providing them with access to basic services such as sanitation, clean water and education.</p> <p><b>Goal 3: Good Health and Well-Being</b>– almost all the beneficiaries experienced less, or no coughing, respiratory diseases and eye burns since receiving the new cookstove.</p> <p><b>Goal 4: Quality Education</b> - Children have more time to attend school, and the majority of families declare that they have more time to do their homework.</p> <p><b>Goal 7: Affordable and Clean Energy</b>– The programme provides access to affordable clean energy, particularly in rural and isolated areas where other sources of energy cannot be used.</p> <p><b>Goal 8: Decent Work and Economic Growth</b>- The programme contributes to the stimulation of local economic activities and creates new employment opportunities for local people.</p>

	<p><b>Goal 13: Climate Action</b> – Between 2015-2018, more than 30 000 tCO<sub>2</sub>e had been saved from being released into the atmosphere.</p> <p><b>Goal 15: Life on Land</b> - The improved cookstoves save a significant amount of wood; thus, contributing to prevent deforestation, forest degradation and maintain biodiversity</p>
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