Exploring Reduction and Mitigation Strategies to Address Scope 3 Air-Travel Emissions: A Behavioral Approach

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Executive Summary

This report presents a comprehensive analysis and strategic recommendations to address Scope 3 emissions at Boston University (BU) - focusing particularly on air travel - a significant contributor to the university's carbon footprint. Scope 3 emissions, as defined, encompass indirect emissions from the university’s value chain, including transportation, which are pivotal in understanding and mitigating the institution's overall environmental impact.

Key recommendations are formulated based on a systematic analysis of peer institutions and a series of qualitative interviews with BU faculty and staff. These include encouraging virtual communication to reduce the necessity for travel, modifying travel policies to encourage sustainable practices, and implementing a default carbon offsetting policy to ensure broader participation in emissions mitigation. The report advocates for a mix of immediate and long-term strategies that integrate technology, policy adjustments, and educational initiatives to foster a culture of sustainability.

Additionally, the report stresses the importance of third-party collaborations for credible carbon offsets and continuous monitoring to adapt and refine strategies. By aligning operational procedures with sustainability goals, BU can significantly reduce its travel-related emissions and reinforce its leadership in environmental stewardship within the academic community. The comprehensive approach outlined aims to not only address immediate impacts but also to cultivate a broader institutional culture that prioritizes sustainability at every level of decision-making.

Introduction

In contemporary sustainability discourse, the assessment of Scope 3 emissions has emerged as a pivotal metric in comprehending an organization's environmental impact. Defined as the indirect emissions associated with an entity's value chain, encompassing facets such as transportation, these emissions wield significant influence. According to Boston University's Transportation Section of the Climate Action Plan[1], the magnitude of Scope 3 emissions is immense, surpassing Scope 1 emissions by a factor of approximately ten. This underscores their pivotal role in shaping the university's overall greenhouse gas footprint. Notably, prior investigations supported by the climate lab have shed light on the specific contribution of air travel to Boston University's Scope 3 emissions, revealing estimates ranging from 9,880 to 29,940 metric tons of CO2[2]. Such findings accentuate the imperative to address Scope 3 emissions comprehensively, particularly in the context of transportation-related activities, to chart a sustainable path forward for Boston University and beyond.

Vilallonga and co-authors recommend several strategies for Boston University to address Scope 3 emissions associated with employee air travel. Firstly, they suggest mandating more consistent travel logging through the Concur platform, thereby increasing the reliability of flight data for researchers and decision-makers. They propose promoting the use of Concur by highlighting its benefits, such as the ability to earn credit card points, and training employees to utilize features like adding frequent flyer miles rewards. This could potentially reduce the number of trips booked through third-party platforms for point accrual purposes. Additionally, they advocate for increased promotion of alternative forms of travel, such as buses or trains, for

[1] "Transportation," 2017, https://www.bu.edu/sustainability/files/2021/11/CAP-Transportation-Report-2017-09-22.pdf.
[2] Lucia Vilallonga et al., "Quantifying Scope 3 CO2 Emissions Associated with Employee Air Travel at Boston University," (2021).

shorter-distance business trips, alongside implementing incentive programs for employees who reduce their flight frequency. The recommendation also includes raising awareness of emissions associated with flights at the time of booking, potentially influencing employees' travel behavior. Furthermore, they suggest leveraging teleconferencing, particularly given the advancements in online communication catalyzed by the COVID-19 pandemic, as a means to reduce the perceived necessity of business air travel and foster a culture shift towards more sustainable travel practices. Incentive programs are proposed as a mechanism to encourage employees to embrace these changes and reduce their reliance on air travel for business purposes.

The Climate Action Plan[3] at Boston University, developed in collaboration with the campus community, sets forth an ambitious yet achievable strategy to position the university as a leader in sustainability efforts, both locally and nationally. Central to this plan is the commitment to achieving carbon neutrality by 2040, a decade ahead of the City of Boston's target. The plan focuses on reducing Scope 1 and 2 emissions, while also addressing Scope 3 emissions, particularly those associated with transportation, including employee commuting and business travel. Employee commuting entails emissions from transportation between home and work sites, while business travel encompasses trips made for academic purposes, such as conferences or fieldwork, both domestically and internationally. While efforts have been made to track business travel using the Concur platform, there is a need to monitor non-Concur-based travel more comprehensively, potentially through survey-based monitoring programs. Additionally, the plan emphasizes providing educational opportunities for students to understand climate change and engage in mitigation and adaptation strategies. Furthermore, initiatives are

[3] The Climate Action Task Force, “Boston University Climate Action Plan,” 2017, https://www.bu.edu/sustainability/files/2021/05/BUClimateActionPlan_Report_FINAL.pdf.

proposed to provide easy access to information and action on offset programs for air travel emissions, aiming to encourage sustainable travel practices among faculty and staff.

In this particular project, we are leveraging insights gleaned from prior investigations into quantifying business travel at BU, as well as previous recommendations and the Climate Action Plan. While acknowledging the overarching necessity, past work lacks sufficient understanding of the behaviors and perspectives of individuals actively involved in business travel at BU, their attitudes toward sustainability, and their perceptions of viable solutions. Moreover, our knowledge regarding how our peer institutions are tackling similar challenges remains limited. Therefore, we frame this project as an opportunity to delve into the attitudes, constraints, and potential avenues for BU to address Scope 3 emissions stemming from business travel, thereby gaining a comprehensive understanding of this crucial aspect of sustainability.

This project integrates two complementary methodologies to explore our open questions. Initially, we map the terrain of practices at various universities, both domestically and internationally. This examination aimed to discern how these institutions acknowledge institutional responsibility, address the pressing issue of carbon footprint resulting from business travel and implement innovative, context-specific solutions. Subsequently, we employ a qualitative approach by conducting interviews with BU staff and faculty members. This qualitative inquiry seeks to gain in-depth insights into their experiences, attitudes, and perspectives regarding business travel and sustainability. Ultimately, we consolidate our findings to formulate recommendations for the university in this domain.

Methodology

Mapping the Terrain

Study Overview

To comprehensively understand the landscape of sustainability concerning business travel, we conducted a systematic analysis of university policies. Given Boston University's status as a premier institution, it encounters unique pressures and engages in activities distinct to such universities. Notably, professors are expected to excel in research and disseminate their findings extensively, while staff actively facilitate students' participation in global study abroad programs. Additionally, alumni relations initiatives target donors across geographically dispersed regions, distinguishing BU from smaller, more localized institutions.

Selection Criteria

Our review focused on peer institutions, aligning with BU's status as a Research 1 (R1) university. We initiated our analysis by examining universities ranked within the top fifty Best National Universities by the US News & World Report[4], as they share similar academic profiles with BU. Furthermore, we included universities featured in the top twenty European Business School Ranking by the Financial Times[5] to broaden our perspective globally. Although recognizing the limitations of these ranking systems, their consistency and widespread recognition rendered them suitable starting points for our investigation.

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[4] "2024 Best National Universities | US Rankings," *US News and World Report*, 2024,. https://www.usnews.com/best-colleges/rankings/national-universities.
[5] "European Business School Rankings 2023," *Financial Times*, 2023 https://rankings.ft.com/rankings/2954/european-business-school-rankings-2023.

Throughout the course of our research, we extended our sample to include Arizona State University, Colorado State University, California State University - East Bay, and the University of Toronto. These universities were cited in documents from our initial selection of universities for having established business travel reduction or mitigation programs.

Archival Data Collection

For each university, we systematically searched their sustainability and general websites using the key terms "business travel," "travel," "air travel," “sustainability,” and "carbon offsets." Additionally, we reviewed sustainability plans, strategic documents, and past student projects for pertinent insights. Our examination extended to travel and reimbursement policies, as well as procurement services to gather comprehensive data. To ensure thoroughness, we utilized the Internet Archive Wayback Machine[6] to access cached web pages, providing insights into historical policies and practices. In the findings, we report all universities identified that engage in carbon reduction or mitigation programs.

[6] “Wayback Machine,” Internet Archive, Accessed Feb 24, 2024, https://wayback-api.archive.org/.

Qualitative Research

Study Overview:

Our project adopted an exploratory approach, prioritizing discovery over the validation of preconceived hypotheses. Utilizing inductive reasoning, we aimed to uncover novel insights into the genuine attitudes, beliefs, and concerns of individuals associated with Boston University. Given the limited existing behavioral research in this area, the application of inductive methods was deemed particularly suitable for our investigation within the emerging field we targeted.

Sampling Plan:

In collaboration with BU Sustainability, we devised a sampling strategy during the spring semester of 2024. Our target population comprised individuals whose primary job responsibilities involved business travel and who possessed the authority to make independent travel decisions. To ensure a representative sample, we aimed to encompass a diverse cross-section of the university community without overemphasizing any specific subgroup. This approach yielded a cohort of twenty-two participants in both administration and faculty, some of whom held multiple roles within BU's intricate organizational framework. We reached out to the cohort multiple times requesting their consent to participate in an interiew.

Data Collection:

We conducted semi-structured interviews with all individuals who accepted our invitation to participate in the study. The interview guide was informed by our terrain mapping experience to solicit viable solutions and attitudes toward extant programs. A total of seven interviews were conducted, each lasting approximately 30 minutes and facilitated through video-conferencing

platforms. With participants' consent, interviews were recorded and subsequently transcribed for analysis.

Interview Procedure:

Participants were provided with a brief overview of the project's objectives and our overarching interest in sustainability. We initiated discussions by posing open-ended questions concerning participants' travel behaviors and their perspectives on sustainability, both in personal and institutional contexts. Emphasizing our status as researchers, we assured confidentiality regarding participants' responses throughout the interview process. We stored our data in accordance with Boston University’s standards for confidential and internal data.

Data Analysis:

Qualitative data obtained from interviews were systematically stored, organized, and analyzed using NVivo qualitative research software. All identities were anonymized. This analysis aimed to elucidate observed constraints and priorities, variations in sustainability focus, and a spectrum of innovative ideas relevant to BU's strategic direction.

Findings

Mapping the Terrain

Of the sixty-three universities analyzed, we identified fifteen with mitigation programs for business travel. An additional 20 universities reference intent, plans, or analysis looking into the potential of setting up a program. Like Boston University, most universities use Concur by SAP to book their travel. Programs varied across dimensions including scope, approach, partnership, and cost. The following are organized by intervention type.

Enabling Alternative Transit

Diverting air travel to rail - especially electric rail such as Acela - is a highly recommended pathway to reduce the university's carbon footprint for travel in the Northeast.[2] Columbia University and Amtrak formed a partnership in January 2023, offering discounted rates for rail travel along the Northeast Corridor, connecting the major cities of New York City, Philadelphia, Boston, and Washington, DC[7]. This initiative aims to promote environmentally friendly travel, reducing emissions and enhancing rail's competitiveness over flying. Columbia affiliates can now access heavily discounted "Saver" fares, fully refundable, and negotiate rates for Acela business class and Northeast Regional business and coach class services. Importantly, these rates are available through Concur, thus allowing employees the ability to centrally book and the university to evaluate the programmatic impact. Further, Concur World Travel shows employees the sustainable impact they have by booking rail travel, reinforcing conscientious thinking about sustainability.

[7] "Annual Sustainability Progress Report: 2022-2023," Columbia University, 2023, https://sustainable.columbia.edu/sites/default/files/content/Documents/Annual%20Progress%20Report%202022-23.pdf.

Purchasing Carbon Offsets

Various universities have adopted programs to acquire carbon offsets, but the scope and logistics of these initiatives vary widely. Carnegie Mellon University, for instance, buys offsets in bulk by aggregating all university-sponsored air travel booked through their Concur system.[8] The University of Pennsylvania engages in a similar practice.[9] Similarly, the Office of Sustainability at the University of Maryland - College Park monitors university air travel and, on an annual basis, recommends a carbon fee along with offset projects.[10] Since 2017, they claim to have offset all air travel emissions. Harvard Kennedy School also tracks its air travel impacts and mitigates climate impact by purchasing reliable carbon offsets.[11] Arizona State University, since 2018, delegates the cost of offsetting carbon emissions to individual departments, with Financial Services periodically evaluating carbon prices and charging the respective departments accordingly.[12]

In contrast, Cornell University, which previously prohibited carbon offset purchases, initiated the Low Carbon Air Travel Pilot program in 2022.[13] Participants in this program may opt to purchase high-quality carbon offsets, specifically partnering with Finger Lakes Climate Fund to ensure local impact. MIT, too, is testing a voluntary program.[14] The Air Travel Carbon Offset

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[8] Bruce Gerson, "Protect yourself and the planet: Book your university travel with Collegiate Travel Planners," *The Piper CMU Community News*, Apr 18, 2020, https://www.cmu.edu/piper/news/archives/2022/april/travel-protection.html.
[9] "Air Travel Sustainability," PennTEM, Accessed Feb 24, 2024, https://cms.business-services.upenn.edu/penntravel/about/air-travel-sustainability/travel-sustainability-fund.html.
[10] "Climate action plan 2.0," University of Maryland Office of Sustainability, Accessed Feb 24, 2024, https://sustainingprogress.umd.edu/progress-commitments/climate-action-plan.
[11] "Fly Less/Fly Better," Harvard Kennedy School. Accessed Feb 24, 2024, https://www.hks.harvard.edu/climate/operations/fly-lessfly-better.
[12] "Price on carbon for Air Travel Faqs," Arizona State University, Accessed Feb 24, 2024,https://cfo.asu.edu/Price-on-carbon-for-air-travel-FAQs.
[13] "Living Laboratory: Sustainable Campus," Cornell University, Accessed Feb 24, 2024, https://sustainablecampus.cornell.edu/living-laboratory.
[14] "Travel Offset Program Overview," MIT Office of Sustainability, Accessed Feb 24, 2024, https://sustainability.mit.edu/mit-travel-offset-program

Program, integrated into its Buy-to-Pay platform, allows travelers to purchase offsets after completing their journeys. MIT collaborates with Climate Vault to validate their offset measures, with prices ranging from $50 for domestic flights to $75 for international ones resulting in the most expensive options among the sampled universities.

These examples demonstrate that purchasing carbon offsets for business travel is an established practice, provided the offsets are deemed trustworthy and of high quality. Many universities employ third-party validation to ensure proper offsetting. Notedly, the price of offsets is often not publicly disclosed and fluctuates annually, exhibiting significant variance based on the offset source and pricing methodology. Moreover, the level of responsibility for offsetting travel emissions varies, ranging from the university to individual departments to the travelers themselves. Each approach has implications for effectiveness, distribution of burden, and individual awareness which are further explored in qualitative data analysis.

Inter-University Carbon Fees

Several universities have chosen to implement internal carbon mitigation initiatives. Typically, these initiatives involve the university assessing a fee per flight or trip, with the proceeds directed into a central fund dedicated to on-campus sustainability projects. This approach to opting for internal programs has been cited as a response to the challenges of verifying projects in offset markets. This viewpoint also prioritizes funding carbon reduction endeavors over directly offsetting the carbon footprint of individual flights.

For instance, the University of Toronto aggregates these fees to finance campus-based projects aimed at reducing greenhouse gas emissions through avoidance or sequestration.[15] Their carbon offset fee applies to all university-funded travel and is calculated based on

[15] “Offsetting U of T air travel emissions,” University of Toronto, 2023, https://www.fs.utoronto.ca/offsetting-air-travel-emissions/.

distance, with a doubling factor for flights exceeding economy class. One ongoing initiative funded through this mechanism is the reforestation project at the Koffler Scientific Reserve, projected to sequester 500 tons of carbon dioxide over 50 years.[16]

At Cal State East Bay, a program was initiated where a flat $9 offset fee is charged to the traveler's department for each air-travel trip, and this amount is directed to the University's Climate Action Plan Fund.[17] Oversight of the program rests with the Finance Office and the Office of Sustainability, with spending authorized by the Director of the Office of Sustainability. Similarly, in 2022, Colorado State University introduced a $10 offset fee for domestic and $20 for international air travel funded by the university.[18] The funds raised are earmarked for various projects across the university, including LED lighting retrofits and the procurement of more efficient equipment.

At UCLA, each traveler's department is charged per air-travel trip reimbursed for university business.[19] The fee structure initially started at $9 for domestic trips and $25 for international trips. The success of this three-year pilot program led to its replication at the University of California, Berkeley, where the Business Air Travel Carbon Mitigation Program was implemented.[20] This program operates similarly, with fees charged to the chart string used for booking travel. However, departments at UC Berkeley have the option to cover the assessed fees, and so far, twenty-three units have chosen to do so. The fee structure mirrors that of

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[16] "Air travel emissions mitigation projects," University of Toronto, 2023, https://www.fs.utoronto.ca/offsetting-air-travel-emissions/mitigation-projects/.
[17] "University Air-Travel Offset Policy," Cal State East Bay Office of Sustainability, 2020, https://www.csueastbay.edu/sustainability/files/docs/air-travel-offset-policy_signed_6232020.pdf
[18] Mark Gokavi, "CSU launches air travel offset in step for climate neutrality," Colorado State University, Jan 24, 2022, https://source.colostate.edu/csu-launches-air-travel-offset-in-step-for-climate-neutrality/.
[19] "Air Travel Mitigation Fund," UCLA Sustainability, Accessed Feb 24, 2024, https://www.sustain.ucla.edu/airtravelfund/.
[20] "UC Berkeley Business Air Travel Carbon Mitigation Program," UC Berkeley, Accessed Feb 24, 2024, https://sustainability.berkeley.edu/office-sustainability/uc-berkeley-business-air-travel-carbon-mitigation-program.

UCLA, with plans for an increase slated three years into the program. In essence, the adoption of internal carbon mitigation initiatives by several universities reflects a strategic shift towards prioritizing direct investment in on-campus sustainability efforts over-reliance on offset markets, indicating a commitment to proactive carbon reduction strategies within academic institutions.

Qualitative Research

To frame the qualitative findings from the interviews, it's crucial to understand the diversity of insights and suggestions that emerged. The interviewees, representing various roles within the academic community, provided rich, detailed accounts of their experiences and thoughts on reducing emissions, implementing carbon offset programs, collaborating with third parties, avoiding administrative burdens, educating the community, and simplifying participation in sustainability efforts. Each theme captures a crucial aspect of how academic institutions can approach environmental responsibility, revealing both challenges and innovative solutions. These findings not only reflect the current practices but also suggest pathways for meaningful improvements in sustainability within higher education.

Reducing Emissions First

The interviewees highlighted several strategies to reduce the carbon footprint associated with academic travel. A primary recommendation was minimizing flight travel, with one participant noting, "we can reduce the amount of travel we do," while another suggested, "I think we should limit and cut [air travel]." An alternative approach discussed was leveraging virtual meeting technologies. As one interviewee put it, "we can take easy steps like conducting meetings via Zoom rather than flying." Another added, "we should use Zoom technologies, when we can, like, don't immediately fly as a speaker here," emphasizing the feasibility of meaningful remote interactions, "We can meet and have meaningful conversations via Zoom." Furthermore, the participants expressed a need to enhance the perceived value of virtual engagements. Currently, "giving a digital talk is sort of considered not as prestigious as going someplace and giving a talk," which impacts professional recognition and advancement. There was a call for institutional policy reforms to support this shift: "I would like to see the university put out some policies around faculty-supported travel like limits on that, and administrative travel

as well.” This change is crucial not just for environmental reasons but also for fostering equity, as remote participation can “serve multiple purposes, not just addressing the climate crisis, but they also address equity issues.” However, challenges with virtual formats remain, highlighted by feedback from another participant: “during COVID conferences were online and for me, they were terrible,” and “I get most of my value going to conferences, talking to people in the hallways between sessions.” These comments underline the necessity for improvements in how virtual conferences are conducted to better replicate the networking benefits of in-person events.

Default vs. Voluntary Offsetting

Several interviewees offered diverse suggestions for the implementation of a carbon offset program, focusing on two main approaches: voluntary and default offsets. One perspective emphasized the educational benefits of a voluntary system, where making an active choice to offset carbon emissions serves as a learning opportunity. As one interviewee mentioned, the act of choosing to offset is crucial because it "helps us educate our community." This approach values conscious participation, underlining the importance of awareness in fostering sustainable behaviors. On the other hand, some respondents expressed concern that voluntary actions alone might not achieve sufficient participation. They argued that many individuals might not engage unless the process is automated: "A lot of people, if not defaulted into the program, are just not going to bother [about offsetting]." Therefore, another group of interviewees advocated for a default offset program, which not only potentially increases participation but also helps establish new behavioral norms. They see this approach as a strategic way to educate the community by integrating it into their daily practices: "[About why we're defaulting you into [offsetting]." These perspectives highlight the balance between encouraging individual agency and ensuring broad participation in sustainability initiatives through institutional policies. Additionally, the ease of choosing and implementing offsets was

emphasized, with suggestions that the offset options should be straightforward and readily accessible. As noted by an interviewee, "It might be easy for the university as a whole to purchase offsets as a block or to default faculty into spending it through their research funds." This suggests that simplifying the offset selection process can facilitate wider adoption and compliance, aligning with the goal of making sustainable choices as frictionless as possible. Importantly, it was noted that carbon offsets should be recognized as an allowable research expense. Overall, this suggests that simplifying the offset selection process can facilitate wider adoption and compliance, aligning with the goal of making sustainable choices as frictionless as possible.

Third-Party Collaboration

Several interviewees discussed the potential benefits and challenges of integrating third-party collaborators in carbon offset programs, emphasizing the credibility and transparency that such partnerships can offer. One interviewee highlighted the effectiveness of collaborating with established organizations like Second Nature. This approach ensures that "everything is accurate and correct," providing a layer of trust and reliability to the offset efforts. However, the discussion also touched on the importance of the impact and locality of these projects. As one respondent noted, "Local offsets are much more embraced by the community," suggesting a preference for projects that community members can directly observe and benefit from, albeit recognizing that these may be more costly. This highlights a tension between achieving broad, verifiable impact through third-party collaborations and maintaining local relevance and engagement. The conversation also revealed a nuanced view of the role of third-party programs in the broader context of carbon offset strategies. While these collaborations can enhance the credibility and scale of offset initiatives, there is also a critical need for transparency about where and how funds are used. As one interviewee put it, "ensuring that the money that is spent on that offset truly goes to the cause" is paramount, advocating for robust reporting mechanisms

to track and verify the use of funds in third-party managed programs. This ensures that contributions are making a tangible difference and align with the donors' environmental goals.

Avoiding Administrative Burden

Several participants highlighted the need for implementing carbon offset programs in ways that avoid administrative burdens, particularly for those not primarily engaged in sustainability fields. One noted the challenges of adding yet another task to their already heavy workload: "It's just one of those things where it's like, oh, here's one more thing I need to think about... I'm going to do what's easiest." This sentiment was echoed by suggesting that the best approach to carbon offsets is one that integrates seamlessly into existing systems, minimizing the need for active decision-making: "If there's a way we can passively do it at the university, that doesn't cause us to have to, like, think that it's built into whatever systems we do, that I think that would be great." Moreover, concerns were raised about the potential for 'leakage' where individuals might bypass voluntary offsets due to their complexity or inconvenience. This underscores the importance of a systematic approach that reduces friction and simplifies participation, ensuring broader compliance and effectiveness. A respondent pointed out, "We've talked about faculty monitoring themselves and paying... I think you get a lot of people just if you're not defaulted into the program, they're just not going to bother." Additionally, the context of competing priorities was underscored by another interviewee focused on their critical core tasks of their role: "I haven't, I don't have time. Just like so much going on, you know, with me supporting the day-to-day [critical functions] that it's not a top priority at this moment in time."

The discussion also highlighted the need for clear and transparent pricing structures to prevent confusion and hesitation. As one participant expressed, "I love the way UCLA is doing it with a very clear fixed price. If it's a national trip or an international trip, those are sort of two simple price points." This approach helps eliminate the daunting task of calculating the cost of offsets, which can deter individuals from participating. The discussion also reinforced the idea

that carbon offset initiatives should require minimal effort from the participants to be successful. These insights call for the development of a carbon offset framework that is not only easy to use but also embedded within the existing administrative structures of institutions, ideally leveraging automation and default settings to enhance participation without adding to the daily administrative load of individuals. As universities contemplate the logistics of such programs, integrating them into routine processes like booking travel through institutional systems can offer a practical and efficient solution. This approach not only aligns with the goal of reducing carbon emissions but also supports the sustainability commitments of the institutions without overwhelming their members.

Educating the Community

Several participants emphasized the educational potential of carbon offset programs as integral components of university settings, advocating for strategies that combine both active and passive learning to enhance awareness of sustainability efforts. A participant highlighted the effectiveness of direct engagement, stating, "Having them also click affirmatively to choose to do that offset helps us educate our community." This approach underscores the value of active participation in fostering a deeper understanding of and commitment to sustainability practices. Moreover, the discussion brought to light the significant benefits of incorporating local carbon offset projects that are visible and relatable to the university community. One participant expressed a desire for more proximate sustainability projects: "I would like to see more local things, in part because then we're teaching our students through them." This sentiment was echoed by another remark about the impact of distant projects: "We have a wind farm, but it's so far away. Very few know of it, which diminishes its educational value." These insights support the notion that local initiatives, where the effects of contributions to sustainability are observable and tangible, greatly enhance the educational experience. Furthermore, the importance of visual and hands-on learning experiences in fostering environmental stewardship was discussed. A

participant reflected on past efforts to integrate sustainability into the physical and educational fabric of the university: "I had really pushed to [build a sustainability infrastructure project]... I wanted it to be part of the lessons of our students, for them to see…and to think [about the University's resource use]." In summary, carbon offset programs present a unique opportunity for education within universities by blending active choices with passive integration into daily routines. This method educates and instills a culture of sustainability across the campus, potentially leading to a broader understanding and commitment to environmental stewardship among students and staff.

Discussion

This study on the landscape of sustainability at business travel at Boston University and its peer institutions reveals practical insights into the implementation and impact of carbon reduction and offset programs within higher education. These findings reflect a complex interplay between institutional policies, behavioral attitudes, and the broader sustainability objectives that universities aim to achieve. This discussion section will delve into the key themes that emerged from both the terrain review and the qualitative research, exploring the implications for policy development and the potential for fostering more sustainable travel practices in academic settings.

Institutional Strategies and Policy Implementation

Our review identified a diverse range of strategies that universities are employing to manage the carbon footprint associated with business travel. The choice to incentivize the adoption of rail travel over air travel in the Northeast Corridor, notably led by Columbia University, underscores a shift towards more sustainable inter-city travel options. This not only reflects a strategic mitigation approach but also highlights a broader commitment to enhancing the sustainability of travel by leveraging existing infrastructure improvements such as the electrification of rail lines.

The adoption of carbon offset programs varies significantly among institutions, influenced by the perceived credibility of offset projects and the logistical challenges associated with their implementation. Programs like those at Carnegie Mellon and Harvard Kennedy School demonstrate a centralized approach, pooling resources to purchase offsets at scale, which may offer economies of scale and simplify the administrative burden. However, the varied scope and structure of these programs across different universities indicate that there is no one-size-fits-all

solution, and each institution must tailor its approach based on its unique circumstances and sustainability goals.

Behavioral Insights and Administrative Challenges

The qualitative data from interviews at BU provided insights into the behavioral and administrative dimensions of implementing sustainability initiatives. A critical finding is the tension between the desire to reduce travel and the academic value often placed on in-person interactions, such as networking and exchanging knowledge at conferences. This dichotomy highlights the need for policies that not only encourage less travel but also enhance the prestige and perceived value of virtual participation.

Furthermore, the discussions around carbon offsetting revealed a preference for default rather than voluntary programs to ensure broader participation. This suggests that while individual choice is important, there is a significant benefit to integrating sustainability practices into the standard operational procedures of an institution to normalize and streamline sustainable behaviors. From a behavioral perspective, defaulting travelers into carbon offsetting programs is likely the most effective intervention. This approach utilizes the principle of "opt-out" rather than "opt-in," significantly increasing participation rates.[21] Such default settings align with findings from behavioral science that show when options are set as the standard choice, compliance is much higher. Implementing this as a norm not only simplifies the decision-making process for travelers but also significantly boosts the university's overall carbon-offsetting impact, making it a strategic lever in achieving sustainability goals.

[21] Richard H. Thaler & Cass R. Sunstein, *Nudge: Improving Decisions about Health, Wealth, and Happiness* (New Haven: Yale University Press, 2008).

Implications for Policy and Practice

The findings of this study suggest several policy implications for universities striving to reduce their travel-related carbon footprints. First, there is a clear need for policies that support both immediate and long-term sustainability goals. Immediate actions might include optimizing travel planning to minimize unnecessary trips or defaulting to lower-carbon travel options where feasible. Long-term strategies could involve investing in technology and infrastructure that support virtual engagement and collaboration and comparably rewarding such work.

Additionally, the insights from BU's experience suggest that educational components are crucial in fostering a culture of sustainability. Institutions should consider integrating sustainability education into their curricula and professional development programs to raise awareness and empower their communities to make more sustainable choices.

Finally, the role of third-party collaborations in enhancing the credibility and effectiveness of carbon offset programs cannot be underestimated. Partnerships with reputable organizations can provide the necessary assurance that offset funds are used effectively, addressing potential skepticism about the impact of such initiatives.

Recommendations

The recommendations below provide a roadmap for Boston University to reduce its travel-related emissions significantly, contributing to its broader sustainability objectives and reinforcing its leadership in environmental stewardship within the academic community.

Reducing Total Air Travel

1. Support Virtual Communication
    - Promote Virtual Events: Encourage conferences and seminars to adopt hybrid formats, increasing accessibility and reducing travel-related emissions.
2. Modify Travel Policies and Practices
    - Develop a Sustainable Travel Policy: Clearly communicate expectations and guidelines for choosing more sustainable travel options.
3. Incentivize Alternative Travel and Low-Carbon Choices
    - Promote Rail Travel: Partner with rail networks to offer discounted fares for university-related travel, similar to the Columbia University-Amtrak partnership.
    - Encourage Local Engagements: Incentivize choosing proximal professional engagements over distant ones.

Mitigating the Carbon Footprint of Air Travel

4. Implement a Default Carbon Offsetting Policy for All Air Travel
    - Introduce Automatic Offset Enrollment: Automatically enroll all travelers in carbon offsetting for their flights when booking through the university’s travel system, with the option to opt out. This 'opt-out' approach can significantly increase participation in the offset program.

5. Collaborate with Third Parties for Credible Carbon Offsets
    - Partner with Verified Offset Providers: Ensure that offset programs are effective and transparent by collaborating with reputable third-party verifiers.
    - Local Offset Projects: When possible, invest in local or regional offset projects that allow community members to *see* the benefits of their contributions, enhancing the educational value.

Prioritizing the Goal of Sustainability

6. Foster a Culture of Sustainability
    - Increase Awareness: Distribute information about the environmental impacts of travel and promote the benefits of reducing travel and mitigating impact.
7. Integrate the Use of Concur for Travel Management
    - Improve Concur: Make emissions information visible in Concur when booking flights. Streamline Concur to make a simpler user experience and allow for benefits such as seat selection.
8. Continuously Monitor and Evaluate
    - Implement Feedback Mechanisms: Regularly collect feedback from the community on travel policies and practices to improve sustainability efforts.
    - Report Progress: Continue to report the university's achievements in reducing travel emissions, maintaining transparency, and building trust.

Conclusions

In conclusion, this report has outlined a comprehensive strategy for Boston University to address and mitigate its Scope 3 emissions, with a particular focus on air travel, which contributes to the university's overall carbon footprint. By integrating technology, policy reforms, and education, BU can lower its environmental impact while fostering a culture of sustainability across the campus. The recommendations provided aim to transform BU's approach to business travel, advocating for a shift towards more sustainable practices, including enhanced virtual communication, alternative travel options, and a robust carbon offsetting policy. These strategic interventions are designed to support BU’s ambitious goal of achieving carbon neutrality by 2040, placing the university at the forefront of global sustainability efforts in higher education. This initiative not only responds to the urgent need for environmental stewardship but also aligns with broader institutional values and the expectations of its community.