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Higher Education Air Travel Emissions Mitigation Strategy Report

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Higher Education Air Travel Emissions Mitigation Strategies and Programs

Universities around the world are working to reduce air travel emissions, especially from business trips, study abroad programs, faculty research, and athletics. Many have introduced carbon fees or offset programs to help lower their impact. Without strong incentives, departments and faculty may not prioritize low-carbon options. Some universities are using travel booking data and reimbursement records, while others rely on voluntary surveys. By examining different universities' approaches, this research explores what strategies have been effective and what obstacles still need to be addressed. Learning from these universities will allow for the University of Illinois Urbana Champaign to develop a cohesive framework on how we can reach our air travel reduction and iCAP goals.

1. Colorado State University
2. Duke University
3. Stanford University
4. University of Edinburgh [Scottland]
5. University of Maryland
6. University of Pennsylvania
7. University of Toronto [Canada]

Colorado State University

Colorado State University's Air Travel Offset Program, implemented in 2022, tracks institution-funded air travel using financial data from Business and Financial Services (BFS), billing departments charge $10 per domestic trip and $20 per international trip. Business and Financial Services generates monthly reports to track eligible air travel, while Facilities Management collects fees for the dedicated CSU Emissions Reduction Fund, with no changes to existing booking processes. Their Emissions Reduction Fund target university infrastructure improvements rather than buying external offsets, allowing the University to lower carbon emissions directly on campus.

Duke University

Duke tracks air travel emissions using an Excel sheet that pulls from financial data rather than direct travel records. They estimate miles flown based on airline cost per mile and overall travel spending, with data coming from Concur for university-funded trips. The system doesn't track charter flights, making accuracy a challenge. Duke is highly decentralized, so air travel reimbursements are managed separately across departments. They leverage existing relationships with parking and transportation services to access annual travel spending data. While they don't have a formal carbon fee yet, it's something they're working on. Student involvement comes through advisory committees, the student environmental union, and internship opportunities, but there's no voluntary form for students to report travel emissions. A major challenge has been improving data quality, as they rely on modeling rather than direct measurements. They aim to enhance tracking by working with procurement staff who have airline connections and making changes to the Concur platform for better travel clarity. Adoption has been slow since many people are used to booking flights outside of Concur, making behavior change a key focus.

Stanford University

Stanford University tracks air travel emissions with an EPA-based emission factor hub built in Excel and all their calculations are done in their Office of Sustainability. They calculate emissions based on flight distance, factoring in radiative forcing and the higher emissions per mile from shorter flights. While most university-related travel is tracked, they're started exploring the calculation of student travel emissions through surveys. There aren't any incentives for departments to choose lower-carbon travel options, but the booking platform now displays flight emissions to help raise awareness. Some of the biggest challenges have been data quality and coordination across departments, and moving forward, they're focusing on behavioral science studies, public dashboards, and stronger outreach efforts.

University of Edinburgh

University of Edinburgh in Scottland tracks air travel emissions using data from their travel management company and business expense reports. For travel that isn't booked through the system, they rely on reimbursement records and student surveys. Their Sustainable Travel Policy was introduced in 2021 as a top-down initiative, with departments promoting it through training and integrating it into booking platforms. A big challenge has been poor data quality from the travel management company and figuring out how to tie emissions reductions to a clear target, but they've focused on raising awareness and making the policy more accessible. To offset emissions, they've

invested in sequestration efforts like forest and peatland restoration while also developing student-led tools to track travel emissions and support research.

University of Maryland

The University of Maryland (UMD) tracks air travel emissions using a combination of data sources, including annual travel data collection, a web-based mileage calculator, and the SIMAP Emissions Calculator. While their tracking is comprehensive, they exclude airport transportation and layovers. UMD's Carbon Neutral Air Travel initiative requires 100% of university-related air travel emissions to be offset. The university also encourages sustainable travel choices and monitors advancements in aircraft technology and sustainable aviation fuels. UMD partners with student sustainability groups on broader initiatives and students help review carbon offset projects. There have been challenges in rising travel emissions due to expanding research, study abroad, and athletic programs, which are addressed through offsets and promoting alternatives to air travel.

University of Pennsylvania

University of Pennsylvania tracks air travel emissions through World Travel and Concur, primarily for staff and faculty. These platforms generate calculations based on mileage, though accuracy varies due to numerous factors. While departments are not directly incentivized to choose low-carbon travel, they are made aware of their emissions. Faculty and staff help establish tracking processes and encourage individuals to consider emissions when booking travel, but the University doesn't directly collaborate with any student groups on campus. For offsets, has the Climate Impact Offset charge (CLIO) applied to Penn's schools and centers that make travel-related purchases. They follow Second Nature's guidelines and prioritizes local projects verified by Calyx Global, focusing on projects with strong evidence of emission reductions. Existing procurement structures and partnerships with travel platforms facilitated implementation, though decentralization made the process more complex, taking about a year to fully integrate. Coordination with various departments and finance teams was necessary to manage logistics, but there has been no significant resistance. The Air Travel Offset Selection Committee oversee project selection and program administration.

University of Toronto

The University of Toronto's Air Travel Emissions Mitigation Initiative (ATEMI) offsets business-related air travel by applying a mandatory carbon offset fee to all unavoidable university-funded flights. The fee is $0.547 CAD per kilometer and doubles for travel above economy class, with charges added during the reimbursement process. Instead of buying third-party offsets, which can be unreliable, the university puts the money into internal carbon reduction projects like tree planting and the Climate-Conscious Inhaler Initiative, focusing only on Scope 3 emissions. Emissions are tracked through SAP by adding fields to expense forms to capture GHG data. University-funded travel makes up about 48% - 50% of tracked emissions, while research-funded travel isn't included yet. The program took about five months to roll out with little pushback, even though it needed approval from multiple departments. Project funding follows five main criteria: cost per ton, total emissions reduction, feasibility, co-benefits, and timeline. The biggest challenge was setting such high standards since only targeting Scope 3 emissions made implementation more complicated.

University of Illinois Urbana Champaign recommendations

1. Tracking
    a. Centralized system to track university funded travel emissions
        i. Booking platform and/or reimbursement forms
            1. Airline GHG emissions database
                a. Start and end destinations, long haul/short haul flights, layovers, mileage, baggage, cabin class, etc.
        ii. Calculation through $ spent – airline cost per mile
2. Mitigation/Policy
    a. Travel management agency
        i. Integrate a platform to track travel emissions with airline emissions database
    b. Emphasis on outreach prior to introducing policy/pilot program
        i. Raise awareness to faculty, staff, and students on the importance of reducing air travel emissions and explain upcoming changes
        ii. Ask for feedback on how this policy might affect them and any suggestions they may have to ensure a smooth transition
    c. Departmental partnerships and incentives
        i. Establish partnerships with key stakeholders (accounting & financial reporting, department of finance, iSEE/iCAP teams, college departments, etc.)
        ii. Create incentives that make departments want to prioritize low carbon travel options
3. Offsets
    a. 3rd party offsets
        i. Research in verifying authentic 3rd party offset sources
    b. On campus offsets
        i. Focus on local environmental benefits that can also benefit other iCAP goals
        ii. Funding on campus emissions reduction initiatives
            1. Infrastructure upgrades, landscaping, etc.

General Questions

*Questions were added or altered per University.

1. What data collection and overall softwares do you use to track air emissions emitted by staff, faculty, and students?
    a. What's the accuracy on calculations and tracking numbers? What percentage of the total air travel emissions does your database track?
2. How are departments incentivized to choose low carbon travel options?
3. What existing structures did your university already have that you were able to leverage?
4. Do you partner with student lead sustainability organizations to help further enforce and help on outreach for the program?
5. How do students play a role in reducing air travel emission initiatives?
    a. Are there voluntary forms for students to fill out if they want to submit their air travel emissions for the university to calculate?
6. What are some challenges you faced and how did you overcome them?