

Case Study: Price on Carbon for Air Travel

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ARIZONA STATE UNIVERSITY

Keywords air travel; Arizona State University

Synopsis Arizona State University (ASU) established the ASU Carbon Project to purchase and develop offsets that address difficult-to-mitigate carbon emissions while supporting the ASU charter. In addition to purchasing market offsets, ASU will develop local and community-based offset projects that reduce the need to purchase offsets in the future and support ASU education and research. The project will be partially funded through a mandatory price on carbon for ASU-sponsored air travel at a rate of \$8 per round-trip flight for fiscal year 2019, escalating in future years.

Primary stakeholders involved University Sustainability Practices led the effort, coordinating with the finance department (which includes ASU travel). This development team consulted with the following major stakeholders: ASU's third-party travel agency and third-party travel system provider (both relationships managed by ASU travel), Sun Devil Athletics, study abroad, and Knowledge Enterprise Development (ASU's research enterprise).

Timeline Effort start date: March, 2016 (Planning and Scoping); Implementation date: July 1, 2018 (the start of Fiscal Year 2019)

Scope

- All ASU-sponsored air travel (24,355 trips), including student-paid study abroad. Air travel paid by another institution or individual is not included.
- Mandatory, without exceptions
- Sponsored research has the price on carbon added to a local department account
- Periodically billed to departments after the travel through billing management system
- Funds used to finance the ASU Carbon Project

Determining a carbon price The development team determined that the easiest method for implementation was a flat price for both domestic and international flights. In order to address concerns about the broad spectrum of prices on carbon (ranging from \$1/metric ton of carbon dioxide equivalent (MTCDE) to over \$100/MTCDE), ASU looked for a market-based price for 2025, the year in which ASU is committed to reaching carbon neutrality for Scopes 1 and 2 emissions. The price on carbon was determined by using the early-January, 2018 futures price on the InterContinental Exchange (ICE) for one MTCDE of emissions offset for delivery on December 15, 2025 (\$9.43). This price resulted in a rate of approximately \$17.42 per round trip flight. Concerned that immediately adding \$17.42 to each flight would stress several departmental budgets, a rate of \$8 per round trip flight was set. This translates into about \$4.33 per MTCDE, which can still purchase a portfolio of offsets including the Community Bundle offsets associated with the Urban Trees project—enough to mitigate all of ASU's air travel for the year. The rate will escalate to \$10, \$12, \$15, and \$18 in successive years in order to ultimately reach the 2025 futures price. The flat fee method inherently reduces the burden on Study Abroad and other international travel relative to domestic flights.

Development process ASU implemented a voluntary environmental impact fee (EIF) on air travel around 2007 but experienced minimal adoption. In March of 2016, ASU began investigating how to

better market the EIF earlier in the travel request/expense process, as well as whether the fee could be an allowable expense on a federally sponsored research grant. In July, it was determined that the EIF was not an allowable expense on federally sponsored research, but that it could potentially be negotiated into the university's indirect cost recovery rate in the future if it were a mandatory fee across all university air travel. This includes tickets purchased through the travel system and by individuals who buy directly and later seek reimbursement. Travel costs paid by other institutions are Scope 3 emissions of those institutions and so were not within ASU's institutional boundary of responsibility.

Starting in July of 2016, ASU collaborated with its third-party travel management system to investigate how to have the travel system calculate an emissions quantity and cost tied to every traveler's estimated total flight distance; this figure could then be voluntarily added by the traveler to the travel request. This method ultimately proved technically unwieldy. A second approach that charged three different rates—domestic, North America, and other international—required too much ongoing staff support.

In 2017, while a levy on air travel was still being developed, ASU's University Sustainability Practices (USP) began collaborating with the Duke Carbon Offset Initiative (DCOI) using accumulated EIF revenues and DCOI funds to plant trees in urban areas and to use a peer review process to verify and validate carbon offsets. USP felt that developing carbon offsets that supported ASU's mission of education, research and social embeddedness was a key element in both achieving its climate goals as well as in securing support among the university community and leadership for the price on carbon.

Concurrently, USP approached the departments that would be most affected by a mandatory price on carbon from air travel. These meetings were used to gather information on barriers and impacts, develop potential mitigation strategies, and provide time for planning. Business office managers across ASU the institution were also informed of the potential policy and they provided feedback to solicit carbon reduction and offset project ideas from the departments.

With evidence of success from the tree plantings and after discussion of the proposed air travel policy with stakeholders, USP received approval to advance the price on carbon for air travel.

Approval process USP initially sought buy-in from the associate vice president of university business services to initiate the scoping and development process. Once underway, buy-in was solicited and received from the associate vice president of facilities, to whom Energy Innovations reports. Energy Innovations and USP work closely together on implementing ASU's Climate Positive goal, which includes carbon neutrality for operations. Next, USP and the development team put together the approach for approval by the CFO. With CFO approval, USP requested and received final approval by the president in June of 2018.

Sources/uses of funds On a monthly basis, financial services uses the billing management system to charge departments for round-trip flights based upon processed travel expense reports. These funds are deposited in The Carbon Fund, a consolidated account to manage resources associated with the ASU Carbon Project. The Carbon Fund is managed by USP under the supervision of the AVP for University Business Services and the CFO.

Other key implementation/context notes

- Information technology can be used to solve many challenges elegantly and precisely. However, opting for a simpler but manual process may have sped up ASU's implementation timeline and allowed for more administrative buy-in. Developing a technology solution that more accurately calculated and processed a carbon fee on each flight would have been technologically complex, requiring significant time and resources.

- Announcements during ASU's process that University of Maryland and UCLA had decided to implement an air travel price on carbon, as well as an editorial in the *Huffington Post* critical of the ubiquity of faculty air travel, were timely and may have reduced any hesitation on the part of some stakeholders.
- Having one price for all simplifies communication and implementation and provides a way to spread the burden more evenly to provide "value" to the missions of international research and education.