**Executive Summary** Local Offset Program

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“Carbon Offsets” typically refer to monetary compensation of carbon emissions as a result of air travel. There is no one entity which hosts a compensation site, but many airlines, companies, and industries offer some sort of offset program or compensation matching program available to many. There are no concentrated efforts to require compensation for air travel, but the UN has plans to offset carbon emissions over the next decade or so by requiring airlines to not only monitor international emissions, but to also offset carbon emissions of EU routes.

Since a systemic option is rarely available, individuals can also offset their individual carbon emissions. Typically, calculations are made based on several factors, such as aircraft fuel efficiency, miles traveled, and number of flights. There are several calculators available, but [atmosfair](https://www.atmosfair.de/en/offset/flight/) has been considered to have one of the easiest, yet most accurate and holistic calculators. Other decent options include [ICAO (International Civilian Avian Organization)](https://www.icao.int/environmental-protection/Carbonoffset/Pages/default.aspx) and [MyClimate](https://co2.myclimate.org/en/flight_calculators/new). In order to assess carbon emissions, some models, such as [Blue Sky Model](http://blueskymodel.org/air-mile), use basic stoichiometry to assess the average carbon emission per mile. The Blue Sky Model utilizes 2002 avian data from FAA (American Organization) to conclude that around 59.3 pounds of carbon are exhausted per mile of air travel. The conversion from pounds of carbon emitted to monetary cost are fairly subjective, as it depends on how much value is placed on maintaining environmental quality. As it is, atmosfair values one ton of CO2 (and other emission types) at [23 Euros](https://www.atmosfair.de/en/faqs/on_co2_calculation), as that is the sum required to invest in renewable energy projects in developing countries such that one ton of CO2 (and other emission types) is prevented in favor of renewable energy.

[Delta Airlines](https://news.delta.com/delta-commits-1-billion-become-first-carbon-neutral-airline-globally) is one of the first to commit to completely offsetting CO2 emissions of global travel, including staff. This makes the company “Carbon-neutral,” although the embodied carbon in their products (such as food, on-flight goodies, and more) doesn’t seem to be included. The money from the offset program goes towards “Investing in innovative projects and technology to remove carbon emissions from the atmosphere that go beyond the airline’s current commitments, and investigating carbon removal opportunities through forestry, wetland restoration, grassland conservation, marine and soil capture, and other negative emissions technologies.”

Others, like United, [have incomplete programs](https://www.united.com/ual/en/us/fly/company/global-citizenship/environment/carbon-offset-program.html) which cover only some kinds of travel, but have partnered with other organizations to manage the projects and their funding.

Local Carbon Offset Programs at universities and businesses apply the same concept, but use the funds to support local carbon negative programs. Options include tree planting, pollinator gardens, energy-reducing programs (UGA’s supports a LED retrofitting initiative), rainwater conservation, etc. For the University of Illinois, this seems feasible, as it will allow iSEE to highlight several important community programs. It could also support SSC grant applications, as if a project is seen as an acceptable carbon offset program, and occurs locally, the SSC may be more likely to approve.

However, the methodology to i) select a value per pound of CO2, ii) select the scope of included carbon emissions (atmosfair calculation does convert other emissions to CO2, but others may not), and iii) track the emissions reduced as related to carbon offset fee of consumer, are all valid points of contention.