

**ASSOCIATED STUDENTS OF COLORADO STATE UNIVERSITY
FORTY-SEVENTH SENATE
EIGHTH SESSION
OCTOBER 25, 2017**

RESOLUTION #4710

University Sponsored Air Travel Emissions Tracking

SPONSORED BY: Haley Dallas, ASCSU Deputy Director of Environmental Affairs; Madelyn Royal, Director of Environmental Affairs; University Affairs Internal Committee; Briana Kingsley, ASCSU Senator for Warner College Council; External Affairs Committee

WRITTEN BY: Van Wallace, Sustainability Intern for Facilities Management

COLLABORATED WITH: Briana Kingsley, ASCSU Senator for Warner College Council; Zachary Vaishampayan, ASCSU Senate Parliamentarian; Stacey Baumgarn, Campus Energy Coordinator

ENDORSED BY: Warner College of Natural Resources College Council

ABSTRACT: This resolution urges the CSU administration to instate accurate tracking of university-financed annual miles flown and to create a strategic plan for handling air travel emissions while offering possible paths towards offsetting and reducing atmospheric emissions created through CSU's air travel.

WHEREAS

Colorado State University has made a public commitment of net-zero carbon emissions by the year 2050 as per the 2008 signing of the ACUPCC and the creation of the 2010 *CSU Climate Action Plan Excerpt* (attachment #1); and,

WHEREAS

Colorado State University spends (and records) thousands of dollars each year for faculty, staff, and some students to travel via airline, documented in *CSU's Annual Expenditure on Flights* (attachment #2), though CSU currently does not track the true mileage of these flights; and,

WHEREAS

The only recorded data regarding air travel is monetary expenditure, therefore the annual university flight mileage must be calculated via third party statistics (arlines.org) regarding the \$/mile average of flights. This limits the accuracy in the calculation of CO₂ emissions which are attributed to flights; and,

WHEREAS

The annual greenhouse gas footprint that Facilities Management has calculated in *CSU Flight Pollution* (attachment #3) indicates that a significant percentage of each annual footprint (or total/net tons CO₂ equivalent emitted) can be directly attributed to CSU's financed air travel; so,

THEREFORE BE IT HEREBY RESOLVED

That CSU should record and track university-financed air travel miles flown by university faculty, staff, and students. This shift in policy could occur either in accounting, at the travel desk, or wherever it would be most efficient. Improved coordination with travel agencies will also be required; and,

THEREFORE BE IT HEREBY FURTHER RESOLVED

That CSU should acknowledge that it is necessary in the long run for CSU to track and reduce or otherwise offset its flight emissions, keeping in mind its public commitment in the Climate Action Plan; and,

THEREFORE BE IT HEREBY FURTHER RESOLVED

That CSU, and ASCSU must support and collaborate with the President's Sustainability Committee to create a feasible plan to offset its flight emissions; and,

THEREFORE BE IT HEREBY FURTHER RESOLVED

That CSU create a strategic plan for offsetting flight emissions. This resolution recommends appropriating the university budget so that funds are set aside for an annual flight emissions offset project. See *Offset Options and Finance* (attachment #4) for examples. The choice of offset and payment for said offsets should be determined via collaboration between the President's Sustainability Committee and CSU Administration; and,

THEREFORE BE IT HEREBY FURTHER RESOLVED

That a copy of this legislation be forwarded to The President's Sustainability Committee, Travel Desk, Dr. Tony Frank, Colorado State University President; Lynn Johnson, VPUO; and Dr. Blanche Hughes, Vice President for Student Affairs;

23-0-8

PASSAGE

11/01/2017

DATE

TAGS: Flights, Air Travel, Emissions, Sustainability, President's Sustainability Committee

Citations for any external references: See Attached Documents

Attachment 1:

CSU Climate Action Plan Excerpt

By signing the ACUPCC, Colorado State University agreed to:

- Develop a greenhouse gas emissions inventory, which was completed in 2009. Inventories have been submitted to the ACUPCC for fiscal years 2006-2009.
- Within two years, set a target date and interim milestones for becoming climate neutral. This plan strives to meet this commitment.
- Take immediate steps to reduce greenhouse gas emissions by choosing from a list of short-term actions, listed below.
- Integrate sustainability into the curriculum and make it part of the educational experience. See Section 3.0 below for a discussion of CSU's sustainability-related curriculum.
- Make the plan, inventory, and progress reports publicly available.

Signatories are required to take two or more of the following tangible actions to reduce greenhouse gas emissions while the Climate Action Plan is being developed:

- a. Establish a policy that all new campus construction will be built to at least the U.S. Green Building Council's LEED Silver standard or equivalent.
- b. Adopt an energy-efficient appliance purchasing policy requiring purchase of ENERGY STAR certified products in all areas for which such ratings exist.
- c. Establish a policy of offsetting all greenhouse gas emissions generated by air travel paid for by the institution.
- d. Encourage use of and provide access to public transportation for all faculty, staff, students, and visitors.
- e. Within one year of signing the ACUPCC, begin purchasing or producing at least 15 percent of the institution's electricity consumption from renewable sources.
- f. Establish a policy or a committee that supports climate and sustainability shareholder proposals at companies where the institution's endowment is invested.
- g. Participate in the Waste Minimization component of the national RecycleMania competition and adopt three or more associated measures to reduce waste.

Attachment 2:

Annual Expenditure on Flights

Table 1: CSU's annual expenditure on flights from Fiscal Year (FY) 2006 -2017

Fiscal Year	Domestic Expenditure	International Expenditure
FY 06	\$ 3,011,289.07	\$ 1,083,728.35
FY 07	\$ 3,054,274.70	\$ 1,133,501.83
FY 08	\$ 3,636,241.72	\$ 1,491,329.19
FY 09	\$ 3,120,202.26	\$ 1,282,847.67
FY 10	\$ 3,116,446.96	\$ 1,231,563.62
FY 11	\$ 3,476,162.94	\$ 1,619,531.68
FY 12	\$ 3,977,206.68	\$ 1,431,917.15
FY 13	\$ 4,294,212.61	\$ 1,558,228.07
FY 14	\$ 4,839,503.33	\$ 1,317,995.40
FY 15	\$ 5,051,431.85	\$ 1,416,537.78
FY 16	\$ 5,435,054.43	\$ 945,974.45
FY 17	\$ 5,442,404.64	\$ 1,294,590.23

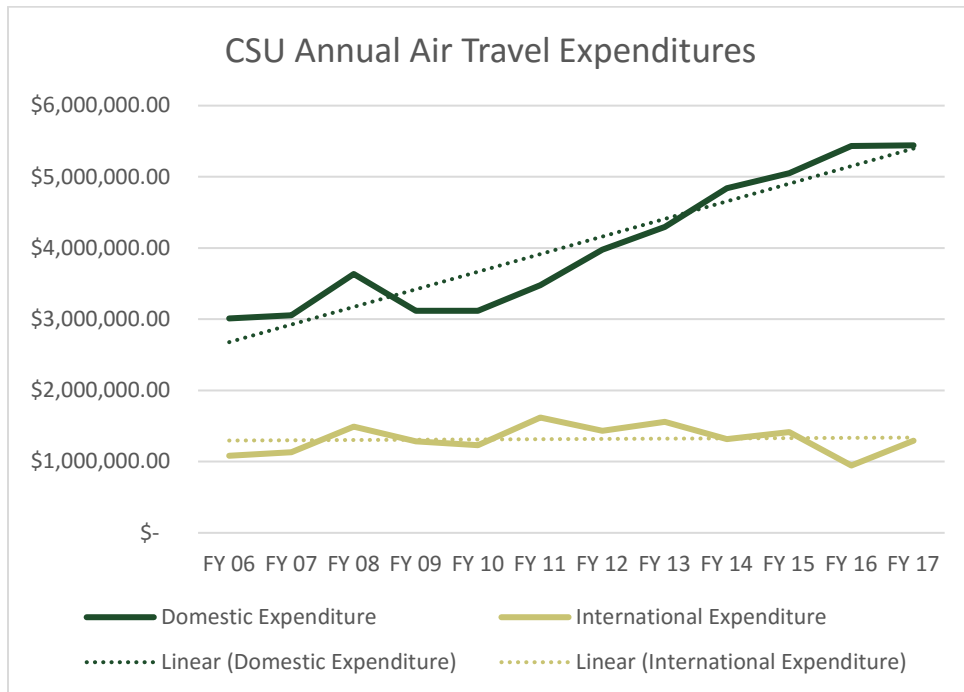


Figure 1: Line graph of CSU's annual expenditure on domestic and international flights, FY06 - FY17

Table 2: Yearly trend of increasing expenditure on flights by CSU, FY 06 - FY17

Trends (slope)	
Domestic	\$247225/year
International	\$3763.3/year

Attachment 3:

CSU Flight Pollution

Table 3: CSU's historical emissions data, FY 06 - FY 17

Fiscal Year	Total Annual Flight Emissions (MT CO2 e)	Total Annual Emissions (MT CO2 e)	Net Annual Emissions (MT CO2 e)
FY 06	24454.70325	218411.3022	217070.1782
FY 07	25008.64388	220921.9968	219662.1576
FY 08	30620.92591	233776.2436	230606.3638
FY 09	26294.21702	226730.4252	223466.8054
FY 10	25966.62786	236201.006	232162.0713
FY 11	27787.2853	233811.8733	229824.9577
FY 12	21584.97799	221911.0458	219212.7071
FY 13	20220.0643	225133.6348	218482.4474
FY 14	20096.72567	234010.3664	227342.9547
FY 15	18831.20754	220758.7287	215549.9186
FY 16	17422.83301	213982.3708	209655.755
FY 17	20821.44824	211396.0655	204132.8739

*It is important to know that these emissions are calculated via estimation. CSU Facilities Management uses airlines.org, which provides an average \$/mi ratio annually.

Table 4: Portion of CSU's total annual emission due to air travel.

Fiscal Year	Proportion of CSU's Total Emissions	Proportion of CSU's Net Emissions
FY 06	11.20%	11.27%
FY 07	11.32%	11.39%
FY 08	13.10%	13.28%
FY 09	11.60%	11.77%
FY 10	10.99%	11.18%
FY 11	11.88%	12.09%
FY 12	9.73%	9.85%
FY 13	8.98%	9.25%
FY 14	8.59%	8.84%
FY 15	8.53%	8.74%
FY 16	8.14%	8.31%
FY 17	9.85%	10.20%

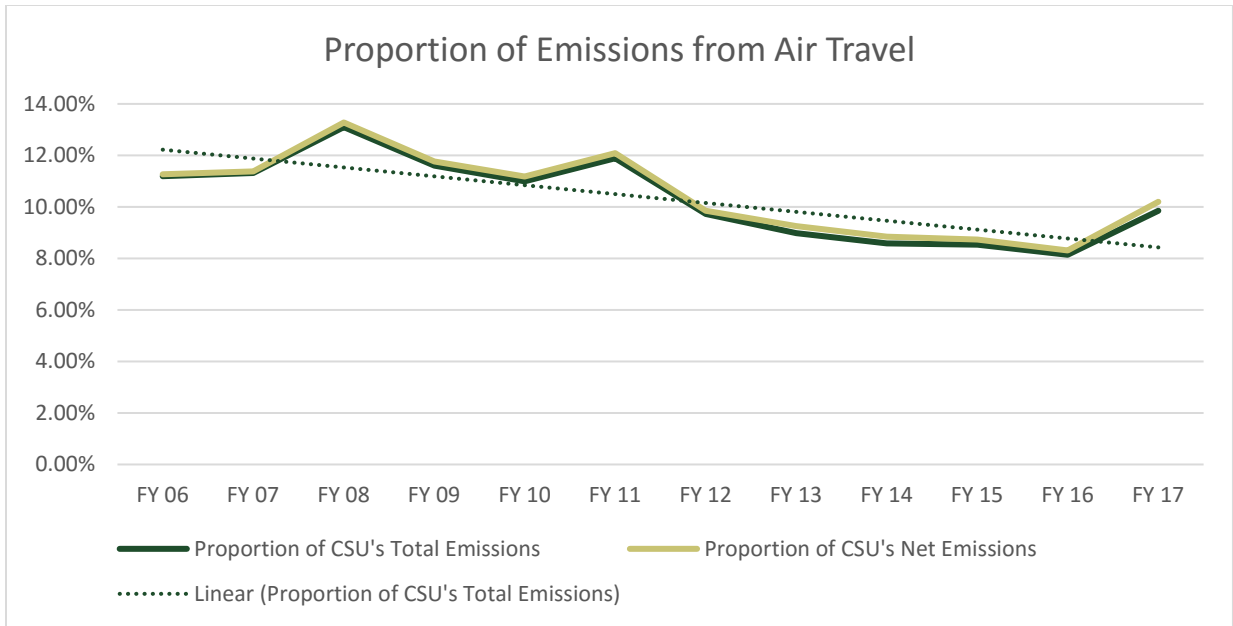


Figure 2: Portion of CSU's annual emissions from air travel

Table 5: Average proportion of CSU's total greenhouse gas emissions FY06 - FY17:

FY06 - FY17 Average %		
	Airlines	All other emission sources
Total:	10.33%	89.67%
Net:	10.51%	89.49%

Table 6: Annual trend in % of CSU's total GHGs coming from air travel

FY06 - FY17 Trend in %	
Trend:	
Total:	(-)0.34%/year
Net:	(-)0.33%/year

Attachment 4:

Offset Options and Finance

Finding the best route for CSU to offset its air travel carbon footprint will require coordination between the student body, ASCSU, Administration, Purchasing, and the President's Sustainability Committee

Finance of Offsets:

From the author's research, commercial carbon offsets average in around \$8-\$14 per metric tonne of carbon dioxide to be offset. Under the assumption that CSU's finds an offset program for somewhere around \$11 per mt CO₂ offset, and the FY17 estimated emissions from air travel of ~ 20,820 mt CO₂, the approximate cost of offsetting CSU's FY17 air travel emissions is \$229,020.

Possible routes to finance this total one-time offset cost:

- Re appropriate the CSU budget so that approximately \$230,000 is set aside to invest in an offset project
- Impose the individual cost of offsetting flight emissions on the faculty, staff, and students or otherwise who fly
- Increase Student fees by \$6.96 per student
 - o $\$230,000 / 33,000 \text{ students} = \$6.97/\text{student}$
- Re appropriate student fees (perhaps in ATFAB) so that the estimated \$7 cost per student is covered through funds used previously for different projects.
- Split the cost of offsets equally between university flyers and student fees
- Tax the universities top 10 percent of university-sponsored fliers
- Tax all flights and use these funds in offset investments

Offsets Options:

Numerous options exist for individuals, firms, or institutions which desire to offset the carbon emitted from their flights. Offsets could be paid on a per flyer basis or as a lump sum at the end of the fiscal year. Some suggested resources and estimated costs are below:

- Establish a revolving fund or appropriate necessary funds to the facilities green revolving fund which focuses on on-campus energy and sustainability projects which may partially offset some of the university's air travel emissions
- Trees, Water, People
 - Website: <https://treeswaterpeople.org/>
 - A local nonprofit that organizes "programs [that] help people and the planet by providing communities with a hand-up and not a hand-out.
 - TWP does not have an explicit carbon offset program, but would collaborate with the university to create the right project.
 - Many Projects located in Latin America
 - Example projects include:
 - Reforestation
 - Renewable Energy
 - Sustainable Energy
- Colorado Carbon Fund
 - Website: <http://coloradocarbonfund.org/>
 - The CCF focuses "solely on in-state greenhouse gas (GHG) reduction projects that produce permanent, verifiable carbon offsets."
 - Example projects include:
 - Larimer county landfill Methane Capture Project
 - J.B Hunt Intermodal Transportation Project
 - Must contact for an estimate for business-level offsets.
- Offset through Airline Provider:
 - Some airline providers (example – Delta, United) provide payment for offsets.
 - <https://www.united.com/web/en-US/content/company/globalcitizenship/environment/carbon-offsetprogram.aspx>
 - https://www.delta.com/content/www/en_US/about-delta/corporateresponsibility/carbon-emissions-calculator-https.html

- Terra Pass
 - Website: <https://www.terrapass.com/product/business-carbon-offsets>
 - Estimated cost of offsetting 20,000 metric tonnes of CO₂ = \$220,000, at the rate of \$11 per metric tonne of CO₂ offset.
- Native Energy
 - Website: <http://www.nativeenergy.com/home.html>
 - Estimate cost of offsetting 20,000 metric tonnes of CO₂ = 280,000 (\$14/mt CO₂ offset)
- BEF
 - Website: www.b-e-f.org ○ Estimated costs range between \$8-\$12/ metric tonne CO₂ offset.
 - Example projects:
 - Reduction of waste
 - Landfill
 - Improved Forest Management