

# University of Colorado at Boulder Greenhouse Gas Emissions Inventory

FY2007-08

*In Accordance with Protocols of the  
American College and University  
Presidents Climate Commitment (ACUPCC)*

September 15, 2008

## **Contents**

|   |           |
|---|-----------|
| <b>Letter of Transmittal</b>            | <b>3</b>  |
| <b>Acknowledgements</b>                 | <b>4</b>  |
| <b>Overview</b>                         | <b>5</b>  |
| <b>Methodology</b>                      | <b>8</b>  |
| <b>Appendix 1-Data and Calculations</b> | <b>15</b> |
| <b>Appendix 2-Two Month Report</b>      | <b>16</b> |



University of Colorado at Boulder

**Environmental Center**

University Memorial Center, 355  
207 UCB  
Boulder, Colorado 80309-0207  
(303) 492-8308  
Fax: (303) 492-3244  
www.colorado.edu/center

*September 15, 2008*

American College and University Presidents Climate Commitment  
c/o Toni Nelson, Climate Program Manager  
Association for the Advancement of Sustainability in Higher Education  
213 ½ N. Limestone  
Lexington, KY 40507

RE: Transmittal and Attestation of 2008 UCB GHG Inventory

To Whom It May Concern

This is to transmit the University of Colorado at Boulder's 2008 Greenhouse Gas Inventory to the ACUPCC registry per the university's commitment. As the university's designated ACUPCC Implementation Liaison, it is also my pleasure to attest that the data and analysis contained herein represent our best knowledge and understanding of the university's carbon position.

Per the ACUPCC reporting guidelines, we have chosen to exclude certain de minimis sources from inclusion in the final tally. For instance, we are excluding HFC refrigerants as they are estimated at less than one percent and will decrease in use over time. On the other hand, we have chosen to include other de minimis sources such as fleet emissions and waste disposal because they are important campus sustainability processes that engage broader interest and activity and serve as important benchmarks of campus implementation of carbon reduction programs.

In terms of analytical error, we are very confident in our Scope 1 emission calculations as they can be directly quantified. Scope 2 emissions are also easily quantified although as noted in the report we are using 2004 eGrid emission factors as the latest available. Scope 3 emissions are best thought of as an estimate, not a calculation, as they depend heavily on surveys and interpolation from surrogate data. Overall, we are confident that the Scope 1 and 2 calculations are within the five percent tolerance recommended by the US EPA ClimateLeaders.

Finally, we are fortunate to have very dedicated staff in all the reporting departments we worked with to secure the relevant data. We are also fortunate to have to expert energy and climate analysts with decades of experience in the public and private sectors performing these sorts of process observations and energy and climate calculations. We thank Moe Tabrizi and Rob Hall for their diligent pursuit of excellence.

Respectfully submitted,

A handwritten signature in black ink that reads "Dave Newport".

Dave Newport, Director  
ACUPCC Implementation Liaison

## **Acknowledgements**

This report was prepared in response to the commitment and leadership of:

*Chancellor G.P 'Bud' Peterson*

The ACUPCC designated institutional body overseeing development of the University of Colorado at Boulder's carbon neutrality effort is the Chancellor's Committee for Energy, Environment and Sustainability (CCEES) chaired by:

*Vice Chancellor for Administration Frank Bruno*

The CCEES is supported by the Carbon Neutrality Working Group:

*Doug Arent, National Renewable Energy Laboratory  
Ghita Carrol, Boulder Valley School District  
Paul Chase, Student  
Rob Hall, Environmental Center  
Curt Huetson, Housing and Dining Services  
Casey Jones, Parking and Transportation Services  
Moncef Krarti, Faculty, Engineering  
Paul Komor, Faculty, Environmental Studies and Engineering  
Carl Koval, Faculty, Chemistry  
John Morris, Facilities Management  
Dave Newport, Environmental Center, Chair\*  
Robin Newsome-Suits, Facilities Management  
Ron Reid, Facilities Management  
Celene Sheppard, Student  
Erika Smith, Planning and Budget  
Moe Tabrizi, Facilities Management*

Additional support to the Carbon Neutrality Working Group:

*David Cook, Parking and Transportation Services  
Jack DeBell, Environmental Center  
Brian Flansburg, Fleet Management  
Marianne Martin, Environmental Center  
Peter Roper, Environmental Center  
Ed Von Bleichert, Facilities Management*

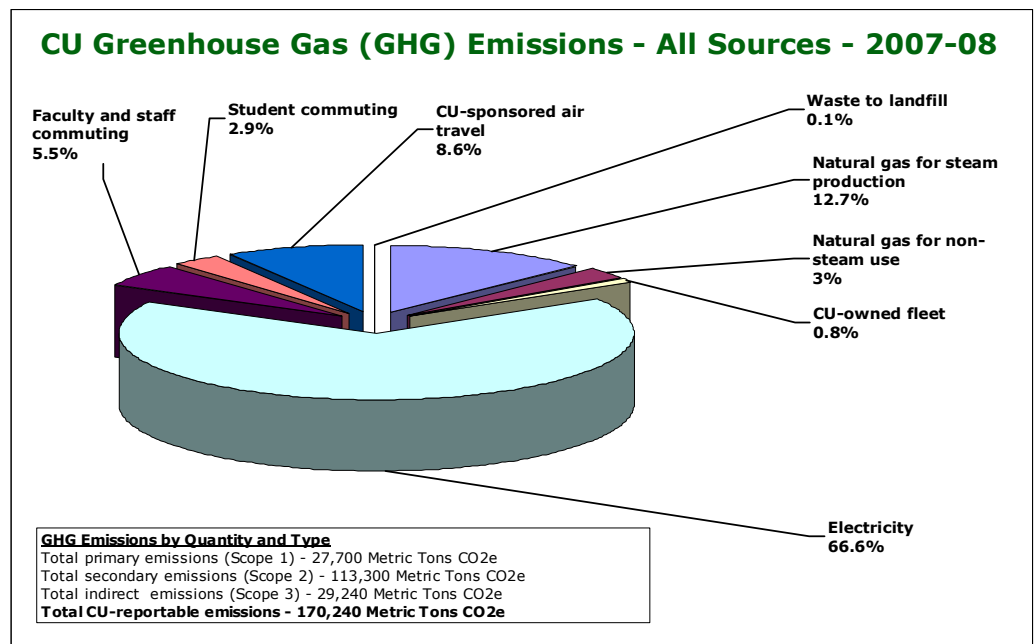
GHG inventory data research and analysis performed by:

*Rob Hall, Environmental Center  
Moe Tabrizi, Facilities Management  
Dave Newport\*, Environmental Center*

\* Designated ACUPCC Implementation Liaison

## Overview

The University of Colorado at Boulder's total greenhouse gas (GHG) emissions from all sources during the Fiscal Year 2007-2008 was 170,240 Metric Tons CO<sub>2</sub>e. To put that number in some context, the US Environmental Protection Agency estimates an average of 19 metric tons CO<sub>2</sub>e for a household of two people per year<sup>1</sup>. Accordingly, CU's total emissions are equal to the yearly total emissions from about 8,960 US households.



**Table 1 UCB Total GHG Emissions by Source**

About 16 percent of total GHG emissions result from CU-owned assets such as vehicle-fleet fuel combustion or natural-gas boiler operations. Over two-thirds of CU's total emissions are the result of energy purchased from secondary sources such as Xcel Energy's electrical generating plants. And the balance of CU's reportable GHG emissions (17%) come from indirect, non-owned sources such as commuting, air travel, and solid waste disposal.

<sup>1</sup> [http://www.epa.gov/climatechange/emissions/ind\\_calculator.html](http://www.epa.gov/climatechange/emissions/ind_calculator.html)

The relative proportion of CU's GHG emission sources are consistent with typical campus GHG emission profiles at institutions of higher education nationwide. Energy used to light and heat major university campus buildings can range from 60->80%<sup>2</sup>. The balance is typically spread across transportation, waste management, and other sources.

| <b>2008 GHG Intensities at Selected Public Universities<sup>3</sup></b> |                       |   |   |                            |
|---|-----------------------|---|---|----------------------------|
| <i>Campus</i>   | <i>FTE enrollment</i> | <i>GHG emissions per FTE student (Metric Tons CO<sub>2</sub>e)*</i> | <i>GHG emissions per 1,000 square feet (Metric Tons CO<sub>2</sub>e)*</i> | <i>Per cent offset (%)</i> |
| University of Arkansas  | 14,939                | 9.7   | 27.1  | 0%                         |
| University of Maryland at College Park                                  | 32,467                | 8.6   | 27.7  | 0%                         |
| Oregon State University**   | 18,793                | 7.0   | 18.7  | 0.9 %                      |
| University of New Mexico  | 20,559                | 5.7   | 17.7  | 0%                         |
| University of Colorado at Boulder                                       | 29,998                | 4.7   | 14.6  | 4.1%                       |
| Boise State University  | 14,314                | 3.5   | 16.1  | 0%                         |
| * Scope 1 and 2 emissions<br>** 2007 latest available                   |                       |   |   |                            |

**Table 2 GHG Intensity Data from Selected Public Universities**

CU's GHG emissions per student are 4.7 Metric Tons CO<sub>2</sub>e per full time equivalent (FTE) student. This is lower than some similar campuses and higher than others. Likewise, CU's per square foot GHG emission intensity is

<sup>2</sup> Derived from reviews of select major universities GHG inventories at [http://www.aashe.org/resources/ghg\\_inventories.php](http://www.aashe.org/resources/ghg_inventories.php), retrieved 9/8/2008

<sup>3</sup> Derived from GHG inventories filed in compliance with ACUPCC and found at <http://www.aashe.org/pcc/reports/>, retrieved 9/12/2008. Readers are cautioned that making fair comparisons between higher education institutions is always challenging due to the diversity of higher education types. The unverified nature of the information in the ACUPCC database and unavailability of unbiased normalization metrics means such comparisons are even more difficult. Users should therefore approach direct institution to institution comparisons with caution and recognize that all comparisons between institutions are inherently biased.

lower than some similar campuses. However, while some context can be seen in these data, caution should be observed as the data are not corrected for seasonal conditions or variations in the types of facility use, among other factors. The ACUPCC does not require the data be reported in that manner.

| <b>UCB GHG Emission Trend</b> |                                       |                       |                                 |                       |
|-------------------------------|---------------------------------------|-----------------------|---------------------------------|-----------------------|
| <b>Year</b>                   | <b>(Metric Tons CO<sub>2</sub>e)*</b> | <b>Percent change</b> | <b>Campus gross square feet</b> | <b>Percent change</b> |
| 2005                          | 129,000                               | -                     | 8,648,728                       | -                     |
| 2008                          | 141,000                               | +8.5%                 | 9,685,160                       | +10.3%                |
| * Scope 1 and 2 emissions     |                                       |                       |                                 |                       |

**Table 3 Growth in UCB GHG Emissions and Facility Size**

CU's 2008 GHG emissions are 8.5% higher than the 2005 reference year. Growth in the campus physical plant of 10.3% combined with a transition away from a natural-gas fired on-campus cogeneration system account for the growth in emissions from the reference year. Growth in GHG emissions was moderated somewhat by the construction of high-performance LEED-Gold buildings during the period.

Under Colorado Governor Bill Ritter's Executive Orders<sup>4</sup>, CU is seeking to meet a 20% per square foot energy conservation goal by 2012, a 20% GHG reduction goal by 2020, and an 80% GHG reduction goal by 2050. The 2005 reference year cited above is the baseline under the Colorado Executive Orders.

Additionally, CU is a signatory of the ACUPCC and is currently preparing a feasibility plan in accordance with the ACUPCC that will identify a date by which the university seeks to attain carbon neutrality. That plan will be published by September 15, 2009.

<sup>4</sup> <http://www.colorado.gov/cs/Satellite?c=Page&cid=1199121589584&pagename=GovRitter%2FGOVRLLayout>

## Methodology

1. Start date of 12-month period

*July 1, 2007*

2. Consolidation methodology used

*Equity reporting. CU is reporting for emissions from university-owned assets only.*

3. Omitted buildings

*The Mountain Research Station*

4. Emissions calculation tool used

*Custom tool was used.*

5. Why was tool selected?

*To enable enhanced data consolidation, tracking and analysis, CU chose to create its own basic emissions calculation spreadsheet tool. This custom tool does, however, adhere to the same basic GHG accounting principles, methodologies and emissions factors used in the CA-CP Calculator.*

6. Source of emissions coefficients used

*Same source as the CA-CP Calculator: Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2004 (April 2006) USEPA #430-R-06-002; Annex 2*

7. Version of IPCC GWP used

*IPCC Third Assessment Report*

8. Who primarily conducted emissions inventory?

*Sustainability Office Staff, Energy Program Manager in cooperation with the Campus Conservation Resource Officer and numerous organizational units that supplied data.*

9. Describe process of conducting inventory

*Data collection for emissions inventory was compiled from pre-existing campus data aggregation and tracking systems in various departments including Accounting, Facilities Management, Parking and Transportation Services, Purchasing, and Human Resources.*

*Once per year these data are collected by the inventory manager. Emissions are calculated by multiplying the energy usage and other data by their coefficients.*

10. De minimis sources and why determined

*Identified de minimis sources are: CH<sub>4</sub> and N<sub>2</sub>O from fossil fuel and electricity usage; HFCs from cooling equipment; CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O from fleet transportations fuels; and waste landfilling.*

*The University of Colorado has several programs and initiatives to reduce emissions in university-owned fleet and waste landfilling (composting and recycling). Although de minimis, we are including emissions from university-owned fleet and waste landfilling in order to measure progress in reductions in these emissions categories.*

*These sources individually make up less 1% of the total inventory and cumulatively less than 5%. Using standard emissions factors we determined CH<sub>4</sub> and N<sub>2</sub>O from all fossil fuel usage was de minimis, including for electricity. Similarly, using the CA-CP factors for waste we determined these emissions to be less than 1% of the University total.*

*Using upper-bound calculations of cooling equipment used and building space cooled, we determined HFCs to be less than 1% of the University total. We have not included the refrigerators used in laboratories or dining services as the maintenance and end of life coolant disposal is handled by outside vendors. Even if included in the inventory, we determine these emissions would not be more than 1% of university total.*

## 11. Data limitations of inventory

*One limitation is the emissions factor used to estimate CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions from electricity purchased from our utility, Xcel Energy. As prescribed by the CA-CP tool we used the Department of Energy's eGRID database of regional emissions factors from electricity generating plants. However, these factors are released with a lag time of several years. The current factors used in our GHG inventory are from 2004. This limitation is common as most entities reporting GHG inventories depend on these factors.*

*With growing focus on GHG emissions, we expect that individual utilities will eventually be releasing official annual updates to the emissions intensity of their electricity. We will use these annual factors when they become available from the utility for public use.*

*However, with the passing of Amendment 37 (Colorado's Renewable Portfolio Standard) in 2004 and its strengthening in 2007 all Colorado investor-owned utilities must have 20% of retail electricity sales come from renewables by 2020. Since 2004 Xcel Energy, the utility that serves CU, has already installed or is scheduled to add several hundred MW of renewables. Because the most current eGRID factors use aggregated generation data from 2004, the carbon reduction benefits of these renewables are not captured in the electricity emissions factor used in the CU inventory filed in September 2008. By the next inventory reporting period in 2010, eGRID will release emissions factors that more accurately capture the lower carbon content of Xcel's electricity. This will be reflected in the 2010 inventory as lower emissions in Scope 2 for purchased electricity, regardless of changes in electricity usage on campus.*

## 12. Stationary Combustion: Emissions from natural gas usage

*Natural gas used for steam plant (heating, cooling and hot water):  
21,700 metric tons CO<sub>2</sub>*

*Natural gas used for non-steam production: 4,700 metric tons CO<sub>2</sub>*

*Total CO<sub>2</sub> from natural gas combustion: 26,400 metric tons*

13. Mobile Combustion: Emissions from fleet fossil fuel combustion

*Fossil fuels used for all University-owned transportation: 1,300 metric tons CO<sub>2</sub>.*

14. Process emissions

*The University has no process emissions.*

15. Fugitive emissions

*HFCs from cooling are the University's only fugitive emissions. These have been estimated to be de minimis. An upper-bound estimate shows these emissions to be less than 1% of the University total.*

*Total Scope 1 emissions: 27,700 metric tons CO<sub>2</sub>*

16. Purchased electricity

*Emissions from electricity purchased from Xcel Energy: 113,300 metric tons CO<sub>2</sub>*

17. Purchased Heating

*The university does not purchase heat.*

18. Purchased cooling

*The university does not purchase cooling.*

19. Purchased steam

*The university does not purchase steam.*

*Total Scope 2 emissions: 113,300 metric tons CO<sub>2</sub>*

20. Commuting

*Staff and faculty car and bus commuting: 9,400 metric tons CO<sub>2</sub>*

*Student car and bus commuting: 5,000 metric tons CO<sub>2</sub>*

21. Air travel

*University-sponsored staff and faculty air travel: 14,700 metric tons CO<sub>2</sub>. Note: this does not include travel to and from airport for business-related travel.*

22. Solid Waste

*The landfill where the university delivers its waste flares its methane. CO<sub>2</sub> from landfilled waste is 140 metric tons CO<sub>2</sub>*

23. Custom sources

*No custom sources emissions have been identified.*

*Total Scope 3 emissions: 29,240 metric tons CO<sub>2</sub>*

29. Carbon offsets purchased:

*2,600 metric tons CO<sub>2</sub>*

30. Offset verification program

*The Colorado Carbon Fund (CCF) is in the process of determining its certification/ verification standard. They will eventually select Gold Standard or Voluntary Carbon Standard, plus Green-e Climate certification.*

31. Description of offsets

*Metric tons of carbon reduction are purchased from the Colorado Carbon Fund (CCF). The CCF is a state-coordinated offset program designed to stimulate verifiable carbon reduction projects in the state.*

*<http://www.coloradocarbonfund.org/>*

32. Total RECs purchased

*Atlas: 800 MWh*

*Koelbel Business: 1500 MWh*

*Wolf Law: 1700 MWh*

33. Percent of total electricity consumption mitigated with RECs

*Total RECs purchases equal roughly 3% of total campus electricity usage.*

34. Emissions reductions from RECs

*Using eGRID regional electricity emissions factors for 2004 (latest available data) for the regions where our purchased RECs are generated, we estimate CO<sub>2</sub> reductions of 3,500 metric tons.*

35. REC verification program

*The University buys its RECs from Community Energy, Inc. This vendors' RECs products are certified by Green-e.*

36. Description of RECs purchased

*Wind energy RECs from Colorado and Minnesota projects. Vendor is Community Energy, Inc.*

37. Sequestration due to forests owned by University: NA

38. Description of sequestration: NA

39. Gross square feet of building space

*In FY 07-08 the University owned 9,685,160 square feet of building space.*

40. Assignable laboratory space: TK

41. Net assignable health care space:

*Wardenburg Health Center is 29,738 square feet*

42. Net assignable residential space:

*3,026,081 sf*

43. Total student enrollment

*Fall 2007 student enrollment was 29,988*

44. Residential students: NA

45. Full-time commuter students: NA

46. Part-time commuter students: NA

47. Non-credit students: Not reported

48. Full-time Faculty

*Fall 2007 full-time Faculty was 3,797*

49. Part-time Faculty: Not reported

50. Full-time staff

*Fall 2007 full-time Staff was 3,105*

51. Part-time staff: Not reported

52. Endowment size

*The University of Colorado at Boulder had a total endowment on Dec. 31, 2007 of approximately \$366.7 million.*

53. Description of circumstances providing context for understanding greenhouse gas emissions:

*Emissions from commuting are based on commuting behavior survey data from 2005/2006. At the time of this reporting, commuter survey data from 2007/2008 is in the process of being aggregated and summarized but was not complete. Commuter emissions by category:*

- *Staff/faculty car and bus commuting: 9,400*
- *Student car and bus commuting: 5,000*

57. Has inventory been verified or audited?

*No external review. Internal peer review among reporting departments.*

# Appendix 1

| 2007/2008 UCB GHG EMISSION SOURCES DATA AND ANALYSIS    |                 |            |                                     |                                |   |   |                                |                                       |      |
|---|-----------------|------------|-------------------------------------|--------------------------------|---|---|--------------------------------|---------------------------------------|------|
| SCOPES 1 AND 2  |                 |            |                                     |                                |   |   |                                |                                       |      |
| ENERGY USE IN BUILDINGS                                 | Collected units | Quantity   | Converted Units                     | Quantity                       | CO <sub>2</sub> factor (lbs/unit)                   | Total CO <sub>2</sub> (lbs)                     | Total CO <sub>2</sub> e (tons) | Total CO <sub>2</sub> e (Metric tons) | %    |
| Steam (heat, hot water, chilled water)                  | klbs            | 418,937    | MMBtu                               | 410,558                        | 116.41  | 47,793,087                                      | 23,897                         | 21,679                                |      |
| Non-steam Natural gas                                   | therms          | 895,486    | MMBtu                               | 89,549                         | 116.41  | 10,424,353                                      | 5,212                          | 4,728                                 |      |
| Electricity   |                 |            | kWh                                 | 124,922,499                    | 2.0   | 249,844,998                                     | 124,922                        | 113,330                               |      |
| <b>Total CO<sub>2</sub></b>                             |                 |            |                                     |                                |   | <b>308,062,438</b>                              | <b>154,031</b>                 | <b>139,737</b>                        | 98%  |
| Building sf   |                 |            |                                     |                                |   | 9,685,160                                       | 9,685,160                      | 9,685,160                             |      |
| Total CO <sub>2</sub> /sf                               |                 |            |                                     |                                |   | 31.8077   | 0.0159                         | 0.0144                                |      |
| ENERGY USE IN TRANSPORTATION                            | Collected units | Quantity   | CO <sub>2</sub> factor (lbs/unit)   | Total CO <sub>2</sub> (lbs)    | Total CO <sub>2</sub> (tons)                        |   |                                |                                       |      |
| Unleaded gasoline                                       | gallons         | 139,337    | 19.38                               | 2,700,351                      | 1,350   |   |                                |                                       |      |
| Diesel  | gallons         | 12,079     | 22.38                               | 270,328                        | 135   |   | Tons                           | Metric tons                           |      |
| <b>Total CO<sub>2</sub></b>                             |                 |            |                                     |                                | <b>1,485</b>  |   | <b>1,485</b>                   | <b>1,348</b>                          | 1%   |
| EMISSIONS FROM REFRIGERANTS - HFCs *                    | Collected units | Quantity   | CO <sub>2</sub> e factor (tons/sf)  | Total CO <sub>2</sub> e (tons) |   |   |                                |                                       |      |
| Cooled building space (sf)                              | sf estimate     | 1,500,000  | 0.00092                             | 1,380                          |   |   | Tons                           | Metric tons                           |      |
| <b>Total CO<sub>2</sub></b>                             |                 |            |                                     | <b>1,380</b>                   |   |   | <b>1,380</b>                   | <b>1,252</b>                          | 1%   |
| ENERGY USE IN BUILDINGS - DE MINIMIS GASES *            | Units           | Quantity   | CO <sub>2</sub> e factor (lbs/unit) | Total CO <sub>2</sub> e (tons) | CH <sub>4</sub> CO <sub>2</sub> e factor (lbs/unit) | N <sub>2</sub> O Total CO <sub>2</sub> e (tons) |                                |                                       |      |
| Total natural gas                                       | MMBtu           | 500,107    | 0.24                                | 60                             | 0.06  | 16  |                                |                                       |      |
| Total electricity                                       | MWh             | 124,922    | 0.55                                | 34                             | 8.88  | 555   | Tons                           | Metric tons                           |      |
| <b>Total CO<sub>2</sub></b>                             |                 |            |                                     | <b>94</b>                      |   | <b>570</b>                                      | <b>665</b>                     | <b>603</b>                            | 0%   |
| <b>*Total Reportable Scope 1 and 2</b>                  |                 |            |                                     |                                |   |   | <b>155,516</b>                 | <b>141,085</b>                        | 98%  |
| <b>Total Scope 1 and 2</b>                              |                 |            |                                     |                                |   |   | <b>157,561</b>                 | <b>142,940</b>                        | 100% |
| <i>* De minimis: Not included in reported totals</i>    |                 |            |                                     |                                |   |   |                                |                                       |      |
| SCOPE 3   |                 |            |                                     |                                |   |   |                                |                                       |      |
| AIR TRAVEL  | Units           | Quantity   | CO <sub>2</sub> e factor (lbs/unit) |                                |   |   | Total CO <sub>2</sub> e (tons) | Total CO <sub>2</sub> e (Metric tons) | %    |
| Total miles travelled (FY 07)                           | miles           | 18,964,104 | 1.71                                |                                |   |   | 16,214                         | 14,710                                |      |
| <b>Total CO<sub>2</sub></b>                             |                 |            |                                     |                                |   |   | <b>16,214</b>                  | <b>14,710</b>                         | 50%  |
| STAFF FACULTY COMMUTING                                 | Units           | Quantity   | CO <sub>2</sub> e factor (lbs/unit) |                                |   |   |                                |                                       |      |
| Car   | miles           | 23,408,604 | 0.87                                |                                |   |   | 10,183                         | 9,238                                 |      |
| Bus   | miles           | 554,836    | 0.56                                |                                |   |   | 155                            | 141                                   |      |
| <b>Total CO<sub>2</sub></b>                             |                 |            |                                     |                                |   |   | <b>10,338</b>                  | <b>9,379</b>                          | 32%  |
| STUDENT COMMUTING                                       | Units           | Quantity   | CO <sub>2</sub> e factor (lbs/unit) |                                |   |   |                                |                                       |      |
| Car   | miles           | 11,333,940 | 0.87                                |                                |   |   | 4,930                          | 4,473                                 |      |
| Bus   | miles           | 1,882,878  | 0.56                                |                                |   |   | 527                            | 478                                   |      |
| <b>Total CO<sub>2</sub></b>                             |                 |            |                                     |                                |   |   | <b>5,457</b>                   | <b>4,951</b>                          | 17%  |
| SOLID WASTE   | Units           | Quantity   | CO <sub>2</sub> e factor (lbs/unit) |                                |   |   |                                |                                       |      |
| Tons waste to landfill (with methane capture and flare) | tons            | 4,215      | 74.10                               |                                |   |   | 156                            | 142                                   |      |
| <b>Total CO<sub>2</sub></b>                             |                 |            |                                     |                                |   |   | <b>156</b>                     | <b>142</b>                            | <1%  |
| <b>Total Scope 3</b>                                    |                 |            |                                     |                                |   |   | <b>32,166</b>                  | <b>29,181</b>                         | 100% |
| TOTAL ALL SCOPES  |                 |            |                                     |                                |   |   |                                |                                       |      |
|   |                 |            |                                     |                                |   |   | Total CO <sub>2</sub> e (tons) | Total CO <sub>2</sub> e (Metric tons) |      |
| <b>Total Reportable* Scope 1 and 2</b>                  |                 |            |                                     |                                |   |   | <b>155,516</b>                 | <b>141,085</b>                        | 98%  |
| <b>Total Scope 3</b>                                    |                 |            |                                     |                                |   |   | <b>32,166</b>                  | <b>29,181</b>                         | 100% |
| <b>Total Reportable* All Scopes</b>                     |                 |            |                                     |                                |   |   | <b>187,682</b>                 | <b>170,266</b>                        | 99%  |
| <b>Total All Scopes</b>                                 |                 |            |                                     |                                |   |   | <b>189,727</b>                 | <b>172,121</b>                        | 100% |
| <i>* De minimis: Not included in reported totals</i>    |                 |            |                                     |                                |   |   |                                |                                       |      |

## Appendix 2

### ACUPCC TWO-MONTH REPORTING FORM

Please use Adobe Reader (version 6 or higher) to complete and submit this form in a paperless fashion. Adobe Reader is free. 

| Today's Date: October 25, 2007   |  |
|--|--|
| INSTITUTION INFORMATION  |  |
| Institution Name: University of Colorado at Boulder  |  |
| RIICE Number: 001370   | (Look up your institution's <a href="#">RIICE number</a> .)  |
| Are you a system office?<br><input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No | If yes, input the other signatory campuses in your system:<br><br>Are you reporting for the entire system or will each campus report individually?<br><input type="checkbox"/> Reporting for entire system <input type="checkbox"/> Each campus will report individually |
| Main Web Site: <a href="http://www.colorado.edu">www.colorado.edu</a>                              | Sustainability Web Page: <a href="http://ecenter.colorado.edu">ecenter.colorado.edu</a>  |
| Total Enrollment (Head Count):   | 30,000   |

| INSTITUTIONAL STRUCTURE   |   |                    |      |
|---|---|--------------------|------|
| Implementation Liaison  |   |                    |      |
| First Name: Dave  | Middle Initial(s):  | Last Name: Newport |      |
| Title: Director, Environmental Center   | Email: <a href="mailto:dave.newport@colorado.edu">dave.newport@colorado.edu</a> | Direct Phone:      | ext: |
| What is the format of your institutional structure for implementing the ACUPCC (select one)?  |   |                    |      |
| <input type="checkbox"/> Task Force <input checked="" type="checkbox"/> Committee <input type="checkbox"/> Individual <input type="checkbox"/> Center- or Institute-led<br><input type="checkbox"/> Other:  |   |                    |      |
| How many individuals are part of your institutional structure? 11   |   |                    |      |
| Which stakeholder groups are represented (select all that apply)?   |   |                    |      |
| <input type="checkbox"/> Board <input checked="" type="checkbox"/> Executive <input checked="" type="checkbox"/> Faculty <input checked="" type="checkbox"/> Staff <input checked="" type="checkbox"/> Students <input type="checkbox"/> Alumni <input checked="" type="checkbox"/> Community Leaders <input type="checkbox"/> Community Members<br><input type="checkbox"/> Other: |   |                    |      |
| Please describe how you created your institutional structure (max. 100 words):<br>The Chancellor's Committee on Energy, Environment and Sustainability (CCEES) was created by Chancellor Peterson on February 22, 2007 and charged with executing the ACUPCC process.   |   |                    |      |

| TANGIBLE ACTIONS  |
|---|
| Please indicate and describe which of the following tangible actions you will be implementing (or have already implemented) while you are developing your Climate Action Plan (select all that apply – a minimum of two are expected):  |
| <input checked="" type="checkbox"/> 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.<br>Please describe:<br>The LEED requirements have been officially added to the campus building codes that apply to all new construction and renovation. All construction projects are now targeting LEED Gold. Three have been approved in the last year. |
| <input checked="" type="checkbox"/> Adopt an energy-efficient appliance purchasing policy requiring purchase of ENERGY STAR certified products in all areas for which such ratings exist.<br>Please describe:<br>Consistent with Colorado Governor's Executive Order D0012-07, dated April 16, 2007, the University promulgated a guidance document informing campus buyers of the Energy Star preference.  |

- Establish a policy of offsetting all greenhouse gas emissions generated by air travel paid for by our institution.  
Please describe:
  
- Encourage use of and provide access to public transportation for all faculty, staff, students and visitors at our institution.  
Please describe:  
In 1991 students voted to allocate student fees to pre-pay for RTD transit passage. This Eco Pass applies to all local and regional transit. A similar measure is funded for faculty and staff. The University also directly funds several local transit routes to enhance the level of service to the campus.
  
- Within one year of signing this document, begin purchasing or producing at least 15% of our institution's electricity consumption from renewable sources.  
Please describe:
  
- Establish a policy or a committee that supports climate and sustainability shareholder proposals at companies where our institution's endowment is invested.  
Please describe:
  
- Participate in the Waste Minimization component of the national RecycleMania competition, and adopt 3 or more associated measures to reduce waste. Please describe the 3 or more associated measures you have or intend to adopt:  
Yes, we have participated in this component for the last two years. 1) We have implemented a zero-waste events system. 2) The Athletics department has committed to a zero-waste goal and begun to significantly increase recycling rates at sporting events. 3) Our ECO-MUGS mugs program provide reduced rates for beverages dispensed in reusable mugs. 4) We captured over 10 tons of reusable materials just in last year's Move-Out campaign conducted at the end of the term.

### SUBMISSION INSTRUCTIONS

1) Before you submit this report, you can save a copy for your own records using the File >> Save As... menu option.

2) When you press the "Submit by Email" button below, you may or may not receive a confirmation that the form has been sent, depending on what e-mail application you use. If you want to ensure that the form has been submitted, you can check the "Sent Mail" folder in your default e-mail application.

Submit by Email

If you have any questions about reporting, please contact Michelle McKay,  
Senior Fellow at Second Nature at [mmckay@secondnature.org](mailto:mmckay@secondnature.org) or 617-477-9776.