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Summary

Radford University previously reported its first publically available greenhouse gas (GHG) inventory in January of 2011. That inventory serves as the baseline for the current inventory update Climate Action Plan (CAP). The current inventory update covers the time period from July 1, 2010 to June 30, 2011 (FY2011) and July 1, 2011 to June 30, 2012 (FY2012). The net GHG emissions totaled **36,816.4** and **35,308.9** metric tons of carbon dioxide equivalent (MTCO_{2e}), respectively, compared to **37,749.6** in FY2010.

Figure 1. RU Net Emissions (CO_{2e})



Introduction

Radford University is a coeducational, comprehensive public university offering 69 degree programs in 39 disciplines and two certificates at the undergraduate level; 21 master's programs in 16 disciplines and three doctoral programs at the graduate level; seven post-baccalaureate certificates and one post-master's certificate. With a student body of approximately 9,573 students, Radford University campus sits on approximately 191 acres of land in the City of Radford. Most students live in one of the 15 university residence halls or in private accommodations within walking distance of the campus. Radford University is located on the New River in the foothills of the Blue Ridge Mountains in Southwest Virginia.

As an ACUPCC signatory, RU has committed itself to becoming climate neutral at some point in the future. To address this part of the commitment, RU has initiated efforts to create a comprehensive Climate Action Plan (CAP) that is comprised of multiple areas, including mitigation, education, research, and outreach efforts. The CAP process began in earnest during the Spring 2011 semester with multiple charrettes to gather stakeholder input. Following that semester, two Technical Working Groups (TWGs) gathered the input along with additional research to create the draft CAP.

periodic updates as information, technologies, and support changes. Another campus effort is the United States

process as a campus standard for new and major renovation capital projects. While there are multiple levels of certification (Certified, Silver, Gold, and Platinum), RU has determined that the Silver level is the minimum level for capital projects. Under this new campus standard, Jefferson and Madison Residence Halls were the first campus buildings to receive LEED certification at any level, and both received Gold certification. Other campus buildings are currently progressing through the certification process and are expected to be certified in the future. These buildings include the new College of Business and Economics (COBE) building and the Moffett and Washington Residence Hall renovation projects. For some of its other campus sustainability efforts, RU has been recognized by outside agencies, which include

Environmental Excellence Award (GEEA) for the installation of a highly efficient magnetic-bearing chiller in Preston Hall that saves energy, greenhouse gas emissions, and money. RU also received a GEEA Honorable Mention in 2012 for its participation in the Campus Conservation Nationals, a national energy and water reduction competition aimed at campus residence halls, where RU residence halls finished in third place in the electricity portion of the competition. Additio

Outstanding University award in 2012,

Colleges since its initial publication in 2010. For additional information

, visit the

SustainABILITY website (www.radford.edu/rugreen).

The GHG inventory includes emissions from various areas across campus and beyond. These areas are known as scopes and include scopes 1, 2, & 3. Scope 1 emissions are from direct sources on campus and include items like stationary and mobile fuel usage, refrigerants, and fertilizer. Scope 2 emissions are from indirect sources, but are linked to the operations of campus, and include purchased electricity, steam, and chilled water.

Scope 3 emissions are the necessary operations of campus. Possible scope 3 emissions include: directly financed travel, commuting, solid waste, etc. Figure 1

net annual emissions, in metric tons, per student full time enrollment and per 1000 gross square feet for the last three fiscal years.

in the last three years.

Table 1. RU's Scope Percentages by Year

| | 2010 | 2011 | 2012 |
|---------|-------|-------|-------|
| Scope 1 | 21.9% | 21.8% | 20.7% |
| Scope 2 | 55.3% | | |

Inventory Results

This is largely due to the fact that over 75% of the emissions are attributed to scope 1 and 2 operations that require large investments over time to have a significant impact.

Table 3. RU's Percentage of GHG Emissions by Source

| | 2010 | 2011 | 2012 |
|------------------------------------|--------------|--------------|--------------|
| Scope 1 | 21.9% | 21.8% | 20.7% |
| On-Campus Stationary (Natural Gas) | 20.0% | 20.1% | 19.5% |
| Direct Transportation (Fleet Fuel) | 1.1% | 1.3% | 1.2% |
| Refrigerant & Chemicals | 0.7% | 0.3% | 0.0% |
| Agriculture | 0.1% | 0.1% | 0.1% |
| Scope 2 | 55.3% | 58.1% | 59.3% |
| Purchased Electricity | 55.3% | 58.1% | 59.3% |
| Scope 3 | 22.8% | 20.1% | 21.1% |
| Faculty/Staff Commuting | 6.7% | 5.5% | 5.8% |
| Student Commuting | 7.0% | 5.0% | 5.2% |
| Directly Financed Air Travel | 2.5% | 1.5% | 1.6% |
| Other Directly Financed Travel | 0.0% | | |

Directly comparing the total emissions inventories of other institutions to RU should be done with extreme caution due to the fact that no two institutions are exaen6u20 0 1 36 745.2 Tm0 g(a)-5(c)4(t t)-3(ha)4(t no t)-3(w5(inven

Conclusions, Limitations, & Recommendations

RU has a rich tradition of incorporating sustainability into its campus and will continue to seek progress including the implementation of its Climate Action Plan and the many strategies and initiatives outlined in it for years to come. For the most up to date sustainability related information, visit the SustainABILITY website (www.radford.edu/rugreen).

Due to the slight differences in data collection, reporting, and dissemination from the baseline, there are certain limitations to the comparability of the to the baseline from 2010. The major limitation is the comparability of air travel information from the current inventory, which is likely a more accurate representation of the actual miles traveled, as opposed to the baseline inventory. The baseline information was collected from older records (2008), thus decreasing the accuracy and applicability to trends in travel for the 2010 fiscal year.

Recommendations developed from this effort continue to include initiating a more systematic method of tracking the air travel mileage of faculty/staff and students, and study abroad travel. Steps have already been taken to initiate these updates for future inventories. Another recommends tra48>5004440057n6057tu 09 lr(omm)-3(e)4

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