



Calvin Sustainability Scorecard

April 2012

Purpose

In response to God's faithfulness and the Biblical mandate to exercise responsible stewardship of all God's blessings, Calvin College developed "practical guidelines that lay a foundation for living in a way that honors the Creator and his beloved creation" in the Statement on Sustainability.¹ The Statement on Sustainability notes that "[s]ustainable living is the daily working out of the stewardship mandate." As Calvin grapples with issues of sustainability, we must find ways to formalize our commitments and make sustainability the "way of life" for Calvin both in terms of operations and the educational mission of the college.

The Calvin Sustainability Scorecard (CSS) is Calvin College's means of assessing (on an annual basis) our progress toward the goals of the Statement on Sustainability. The CSS covers several aspects of sustainability at Calvin, and it is meant to be a simple but helpful way to evaluate our activities on campus. CSS metrics are related to Statement on Sustainability topics on the following pages.

No assessment process or set of metrics are ever perfect, and this Calvin Sustainability Scorecard is no exception. It was designed to be simple, and therefore sustainable through time, and it includes mostly data that we routinely collect anyway. Data are reported based on both academic and calendar year, depending on typical reporting intervals. We will find good reasons to change, adjust, or amend the scorecard as we become more aware of the campus impact on God's Creation, as we continue the process of evaluating our activities in the context of the Statement on Sustainability, and as we strive to live as responsible stewards of the Earth. Comments, both praise and criticism, are welcome. Please visit the Calvin Energy Recovery Fund website at <http://www.calvin.edu/go/cerf>.

Summary

The goal of the Calvin Sustainability Scorecard (CSS) is to provide a quantifiable measurement process to track our progress in conjunction with the College's Statement on Sustainability.¹ Doing so requires accounting for campus-wide behaviors in a new way, assembling a list of things we never counted before. Some of the sections in the Statement on Sustainability lend themselves well to numeric metrics, while others do not. In the process of assembling these metrics, we are becoming more accountable for the effects of our actions on the environment.

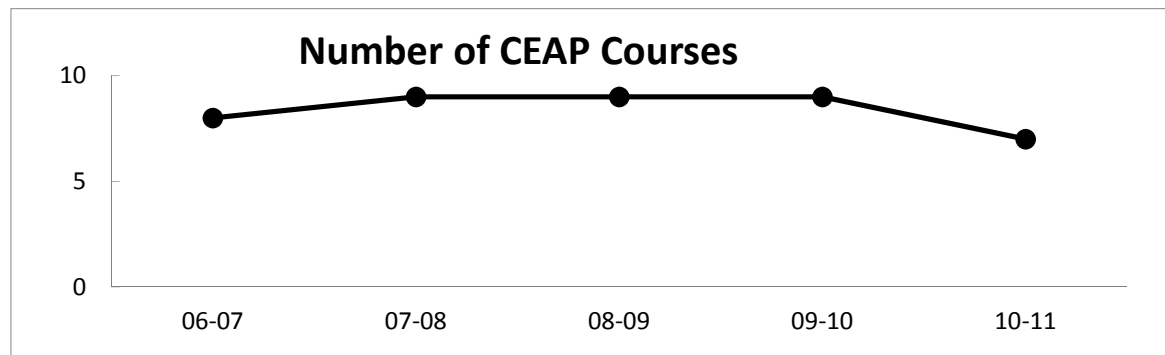
Energy consumption and CO₂ emissions continue to be a challenge for the College, but they have fallen for the second year in a row. Other areas showing improvement are: local food purchases, recycled material, and a decrease in parking permits. In its second year, Calvin's composting program doubled the mass composted in 2011. Unfortunately, water consumption and fertilizer application rose in 2011; this increase may be attributed to the increase in athletic field square footage.

¹ <http://www.calvin.edu/admin/provost/sustainability/actions/statement.htm>

Teaching and Research 1

The Calvin Environmental Assessment Program (CEAP) is a collaborative effort of faculty (since 1997) who dedicate regular lab sessions or assign student projects for data collection that contributes to an overall assessment of the campus environment and surrounding community. Students learn about their campus environment and are exposed to sustainability ideas and concepts through CEAP projects. The data collected and analyzed by students form the basis for recommending changes in campus policies, for programs that target individual behavioral changes, and for identifying issues that involve and impact adjacent neighborhoods and the West Michigan community. At the end of each semester, CEAP projects culminate in a poster session where students present their findings.

Notes about the data: The number of CEAP courses fluctuates depending on course rotations, faculty teaching loads and is just one indicator of how sustainability and creation care is integrated into the Calvin curriculum.

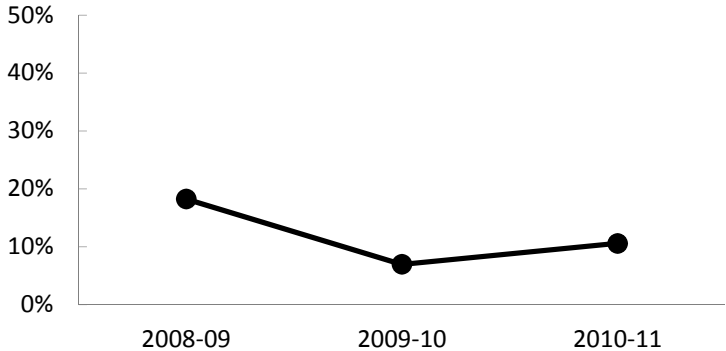


Beginning in the 2008-2009 academic year, the scorecard has also been tracking sustainability activities of faculty through the annual Faculty Activity Report (FAR) in three subcategories: sustainability related class content, research and publications, grants and fellowships.

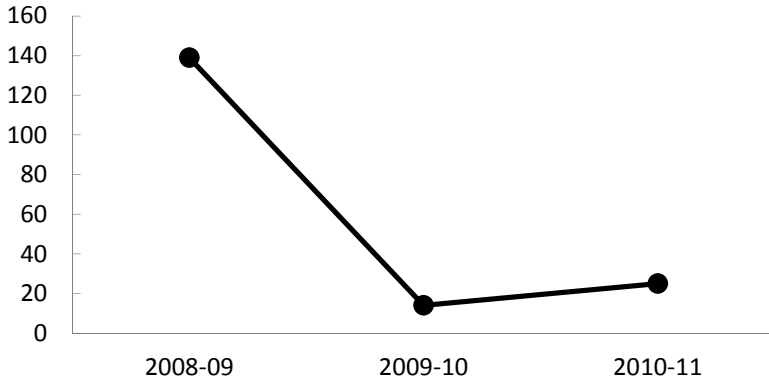
Notes about the data: When sustainability reporting was first introduced in 2008, many faculty documented their activity. However In 2009-10 and 2010-11 the FAR process has been insufficiently comprehensive to capture the breadth of faculty activity because of significant under-reporting. We are considering alternative ways to collect these data in future years.

1 Teaching and Research

Percent of Faculty with Reported Sustainability Activity



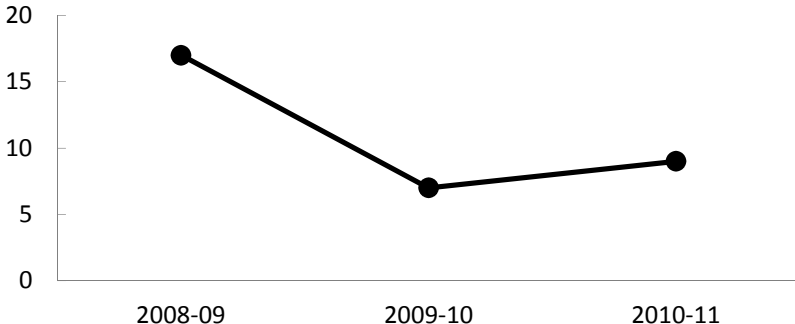
Number of Classes Incorporating Sustainability



Number of Sustainability Research Publications & Presentations



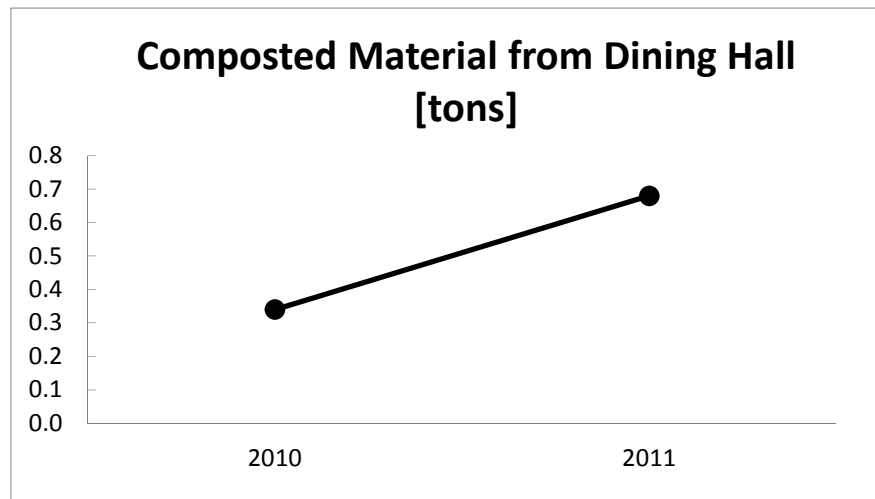
Number of Grants for Sustainability Research



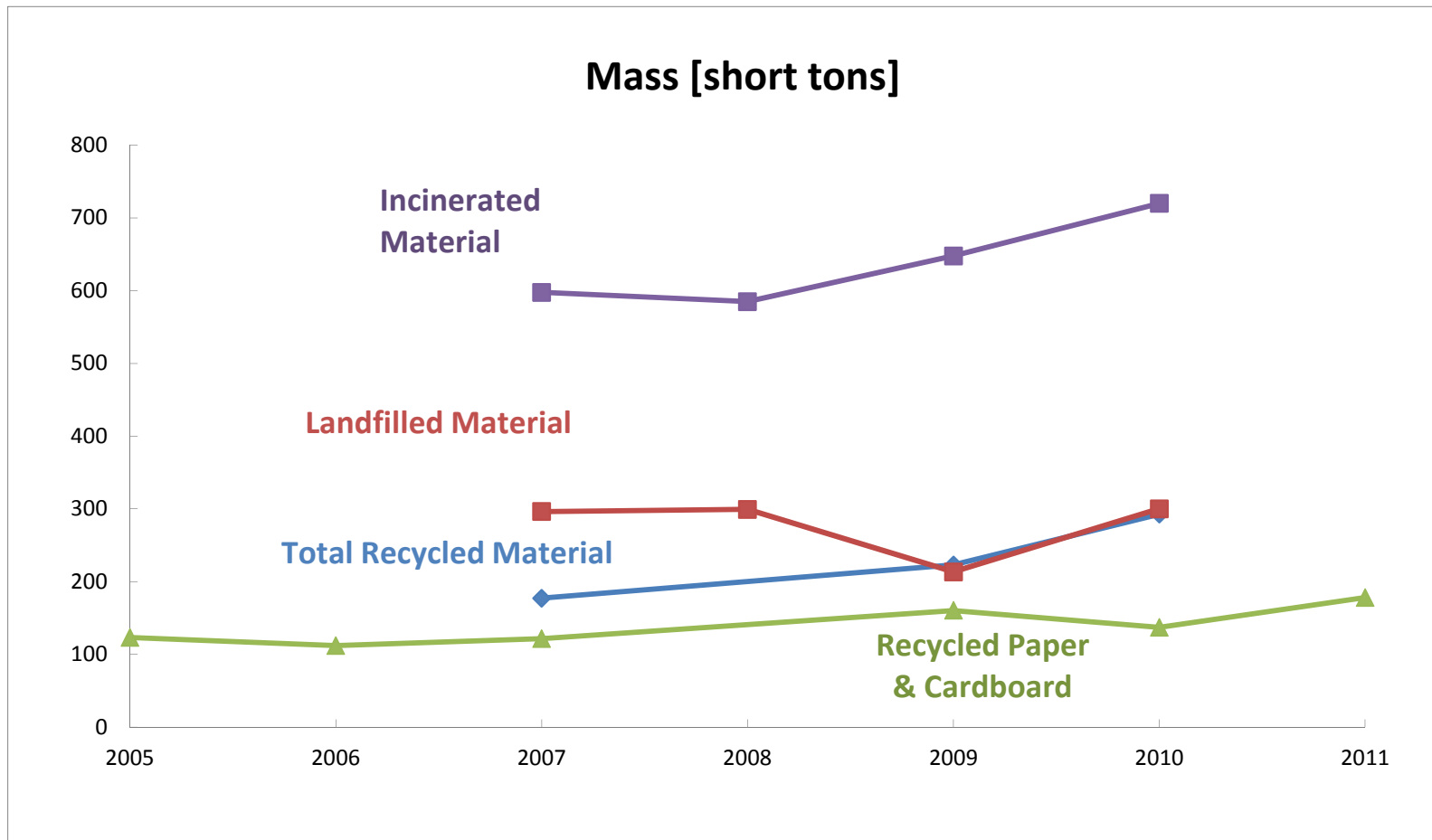
Solid Waste Reduction and Recycling 3

Calvin College continues its efforts to recycle as much material as possible. Currently we recycle office paper, paperboard, corrugated cardboard, books, glass, metal and plastic food and beverage containers, electronic devices, lamps and ballasts, batteries, polystyrene, scrap metal, concrete, used oil, and antifreeze. Composted waste diverted from the trash stream doubled from 2010 to 2011 as the program gained popularity in its second year.

Notes about the data: Data are collected in terms of both volume (e.g., 5-gallonpails of batteries) and mass (e.g., tons of cardboard). For this scorecard, all volume data was converted to mass using measured density values. Accurate values for 2008 could not be recorded due to a change in reporting periods. The following graph contains data reported in both academic and calendar years. Data for academic years are represented by the fall semester year i.e. 2009-2010 data is plotted in 2009.



3 Solid Waste Reduction and Recycling



Energy Purchasing 4

Greenhouse gas emissions (CO₂ included) are an important way to assess environmental impact. The earth responds to total atmospheric CO₂ concentration. Carbon emissions "intensity" (emissions per student or per square foot of building space) is meaningless with respect to climate change caused by global warming. We seek to reduce our total greenhouse gas emissions from all activities on campus.

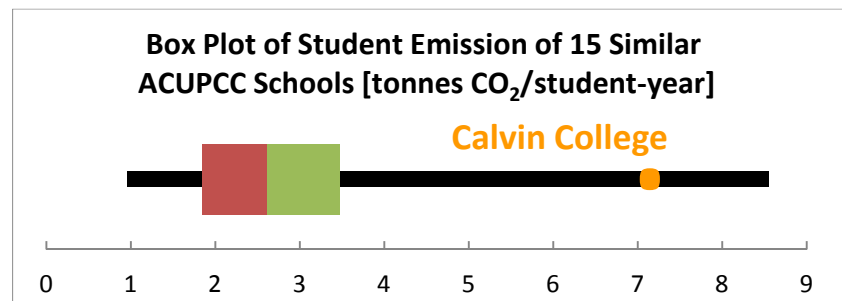
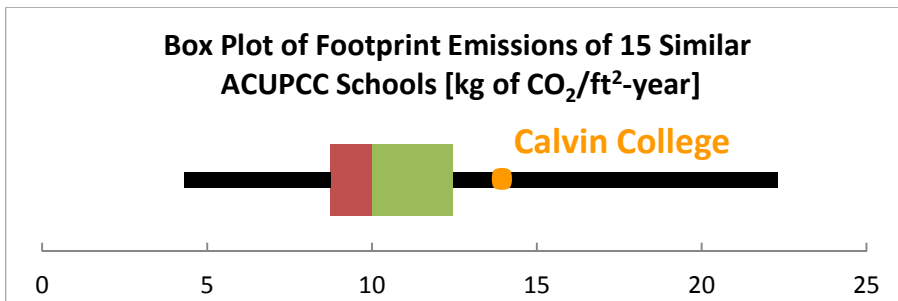
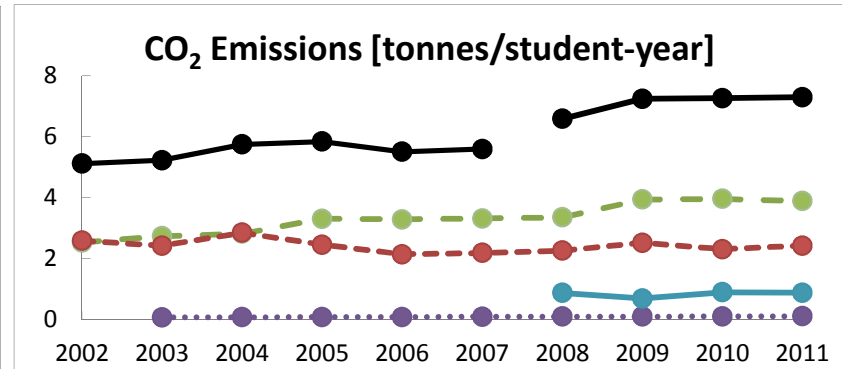
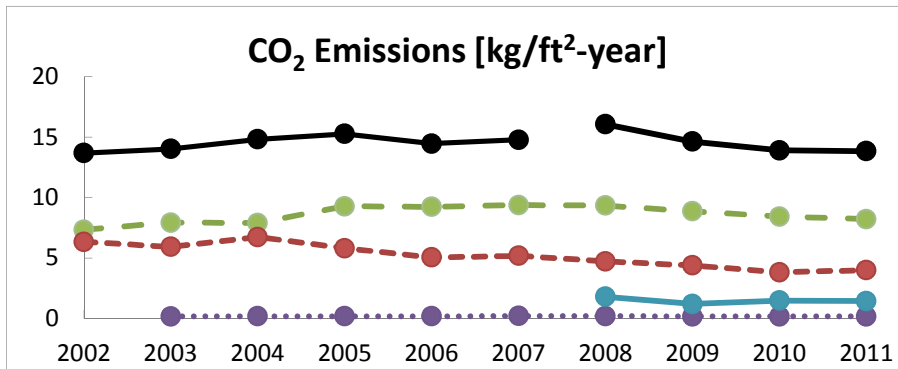
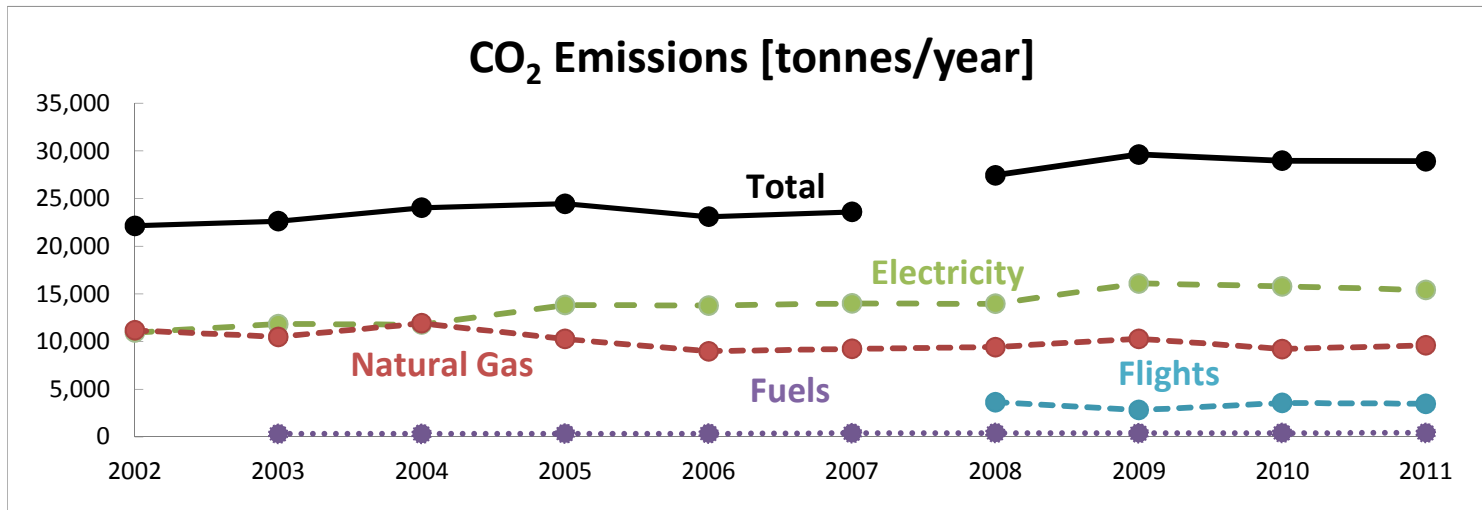
CO₂ emissions continue to be a challenge for the college. Emissions have increased from 2002 (when data collection began) to 2009. However, in the past two years there has been a slight reduction in emissions, possibly caused by moderate temperatures and minimal building projects.

A database of campus emission intensity for American College & University Presidents' Climate Commitment (ACUPCC)² signatory schools has been compiled by Dr. Sharon Jaye³ at Westminster Schools in Atlanta, GA. The list compares ACUPCC universities and colleges in similar climate zones. Calvin is in climate zone 5A (Cool & humid) and in size/setting is in group 13 (Medium sized 4-year, primary residential). Dr. Jaye compares schools in two categories, footprint emissions (kg of CO₂/ft²-year) and student emissions (tonnes CO₂/student-year). In 2011, the median footprint emissions in Calvin's climate zone was 10 kg of CO₂/ft²-year, but Calvin scored above the median at 13.8 kg of CO₂/ft²-year. The median student emissions was 5.74 tonnes CO₂/student-year; again, Calvin was above the median at 7.29 tonnes CO₂/student-year. Note, the ACUPCC is a commitment to greenhouse gas elimination that Calvin has not yet signed; a faculty committee is investigating the implications of joining the ACUPCC.

²More information on ACUPCC is at: <http://www.presidentsclimatecommitment.org/>

³The comparative information was found at: drsharonjaye.webs.com

4 Energy Purchasing

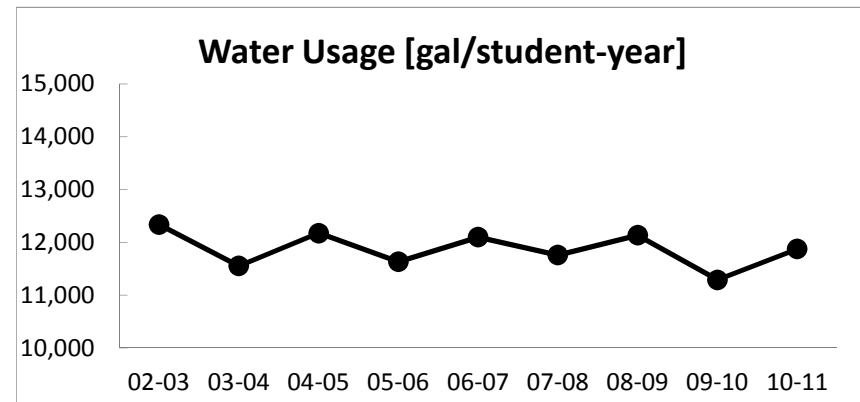
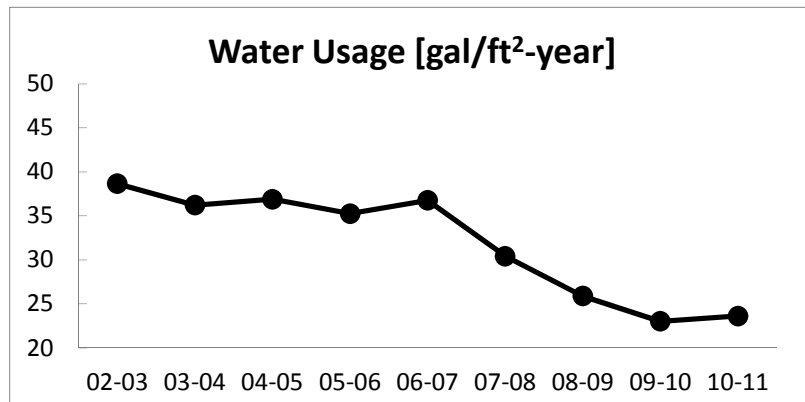
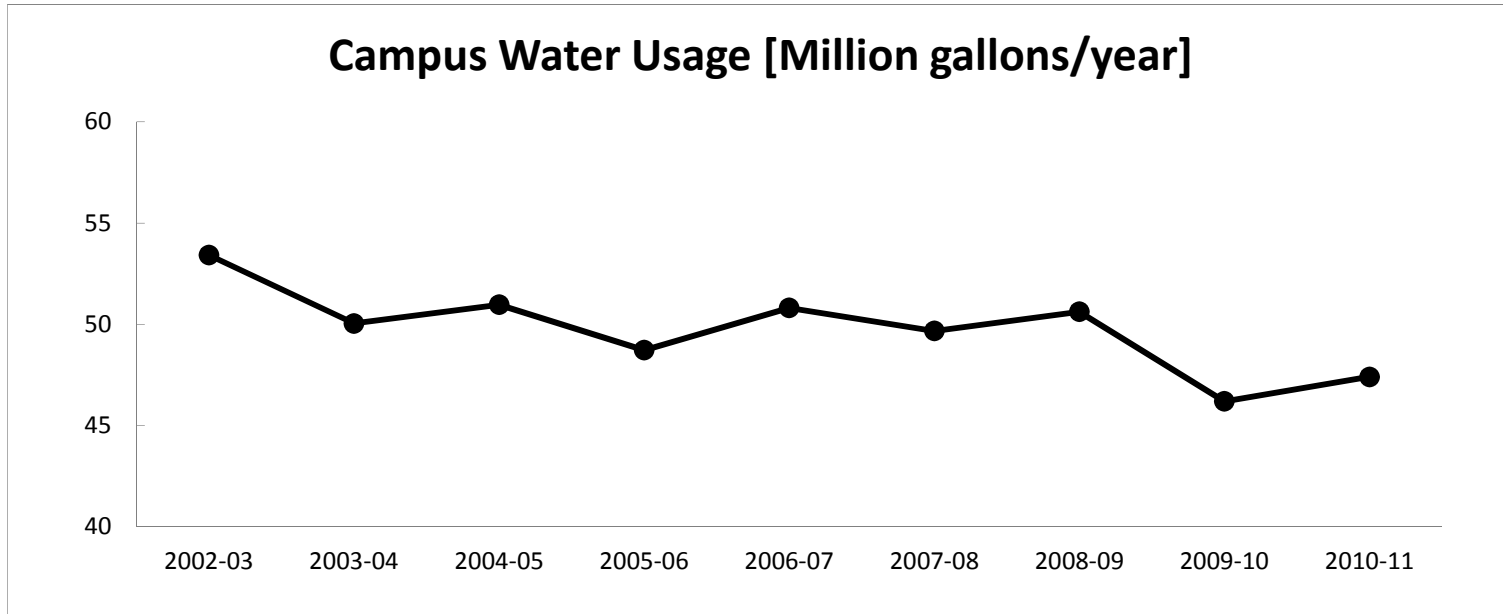


Water and Wastewater 5

Water consumption is another way to assess environmental impact. We seek to reduce the overall water consumption on campus. Water usage at Calvin is trending downward since 2002 with a slight increase in consumption seen in 2010-2011.

A note about the data: Data for water usage is difficult to obtain precisely, because of the many independent water bills that Physical Plant receives. For this report, water usage is reported from the "main meter" on campus and includes the main campus but excludes the Bunker Interpretive Center, DeVos Communications Center, Prince Conference Center, Seminary Buildings, the Physical Plant building, Knollcrest East, Burton Street houses, and Ravenswood.

5 Water and Wastewater

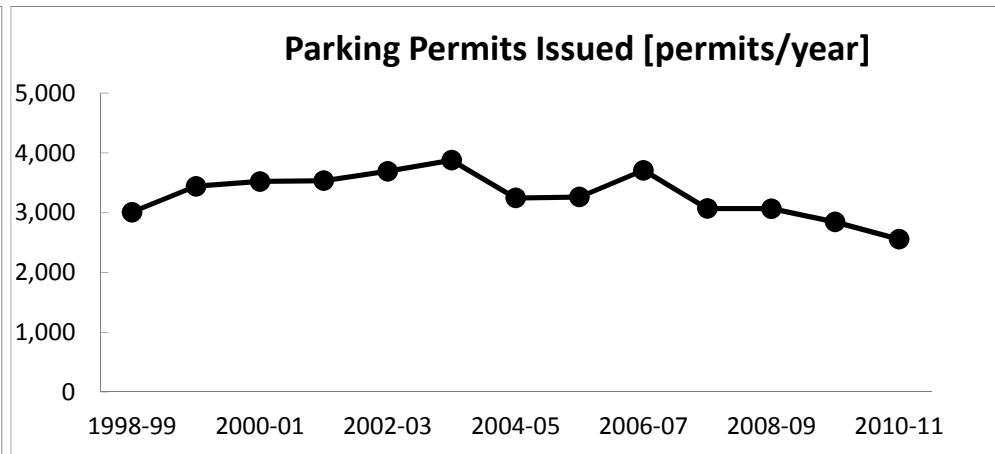
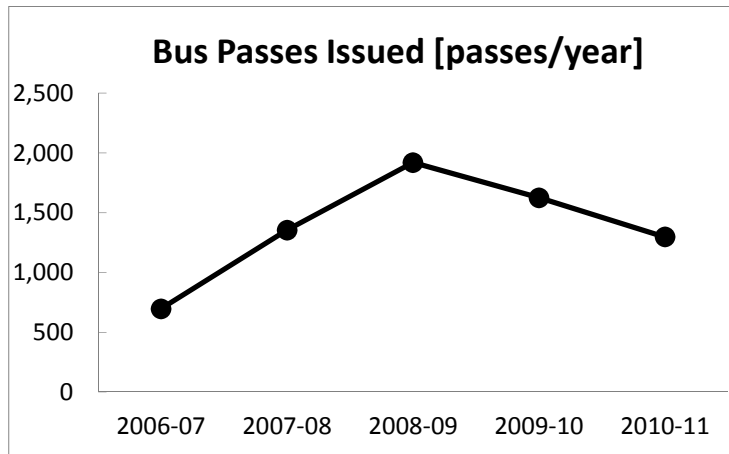
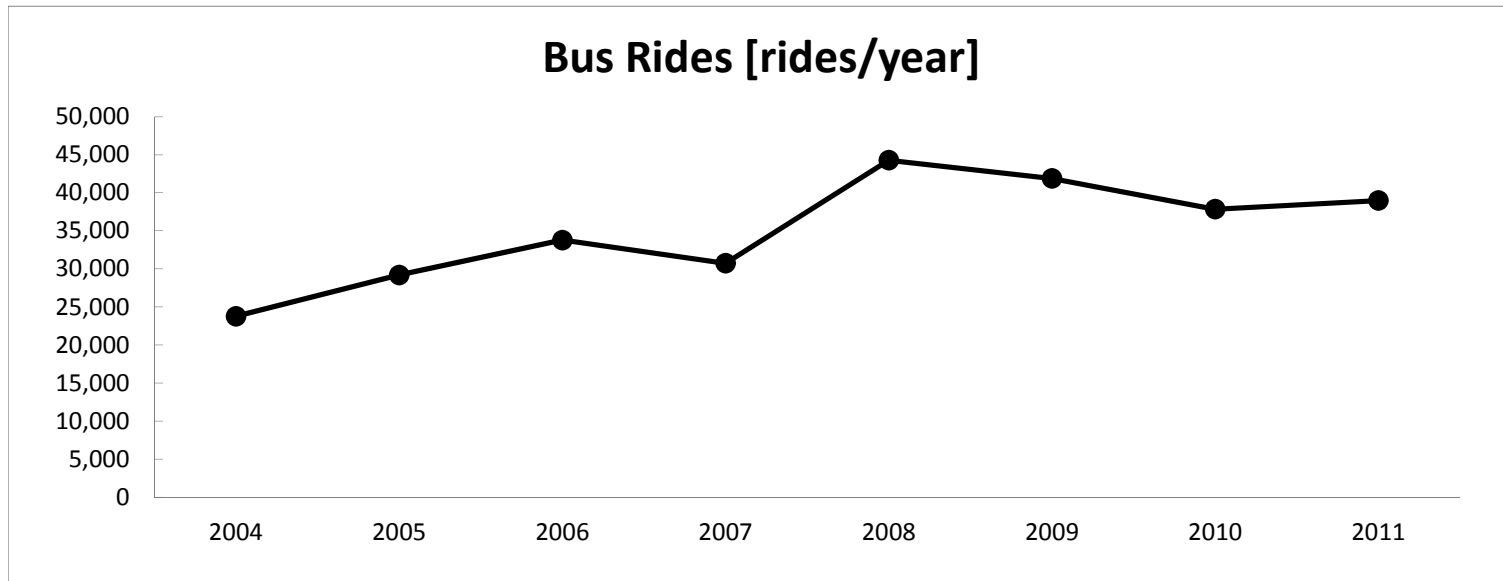


Transportation 7

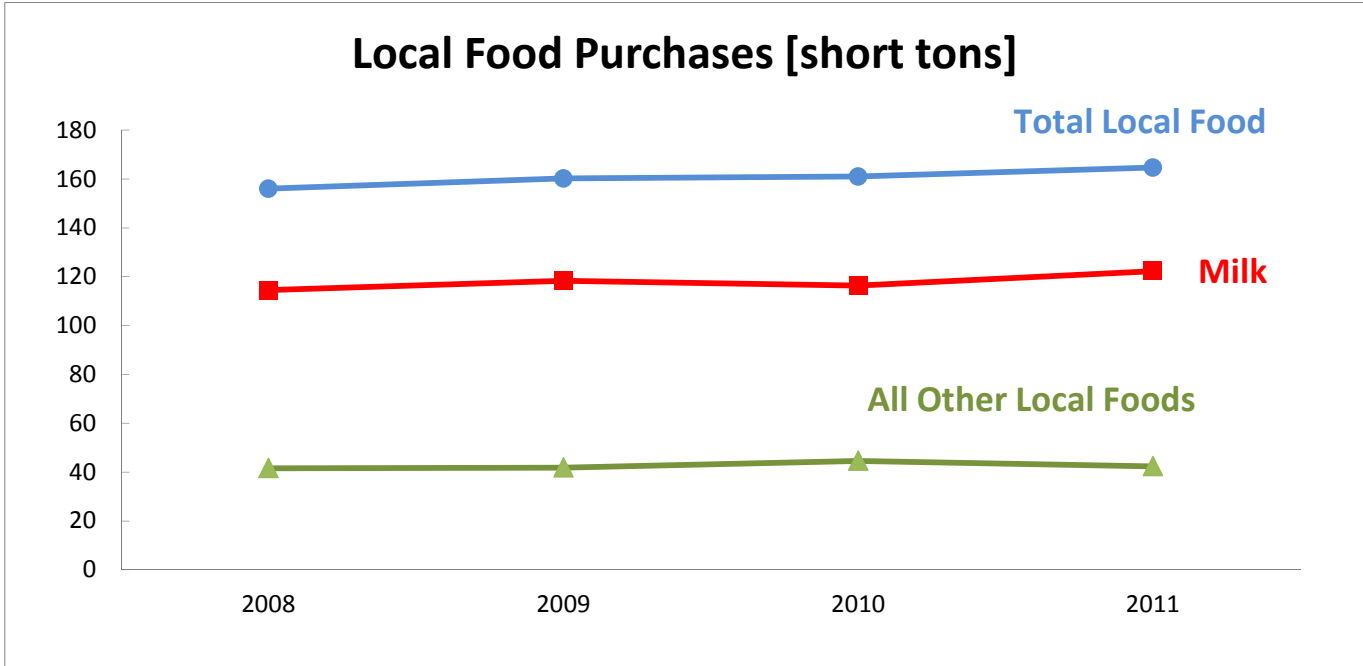
Walking, biking, and public transport are popular means of commuting to campus. Bus ridership saw its peak in 2008 corresponding to elevated gasoline prices. Subsidized bus rides decreased along with gasoline prices in 2009 and 2010. Gas prices slowly rose in 2011, resulting in a slight jump in subsidized bus rides.

A note about the data: Rapid discount cards have been available since the 2006-07 academic year, and Rapid ridership information is available since 2004.

7 Transportation



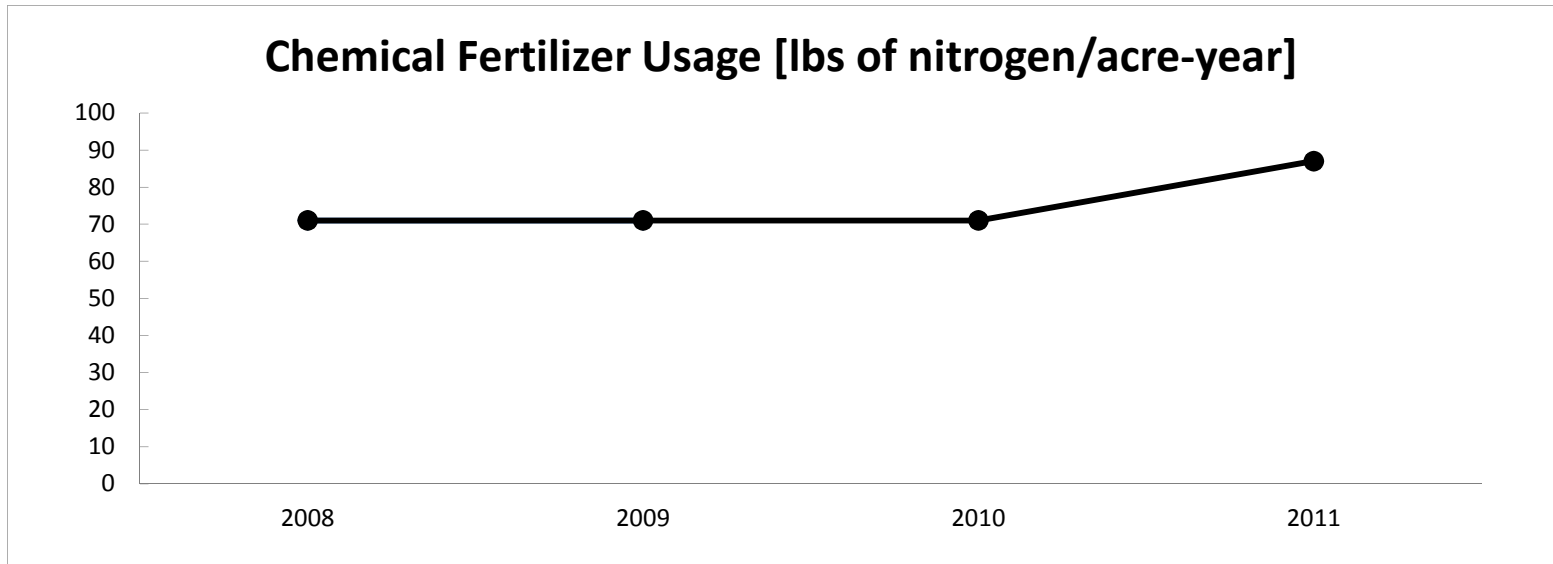
Food and Food Services 8



Calvin dining services (CDS) strives to help students, faculty and staff to understand, practice and promote sound environmental policies concerning the reduction of food waste and the promotion of recycling. Some initiatives include: buying regional produce in season, supporting local organic farms, and minimizing the use of disposable dinnerware.

A note about the data : The vast majority (72% by mass) of local food purchased by Calvin Dining Services is milk. 2008 was the first year that data was collected for this purpose.

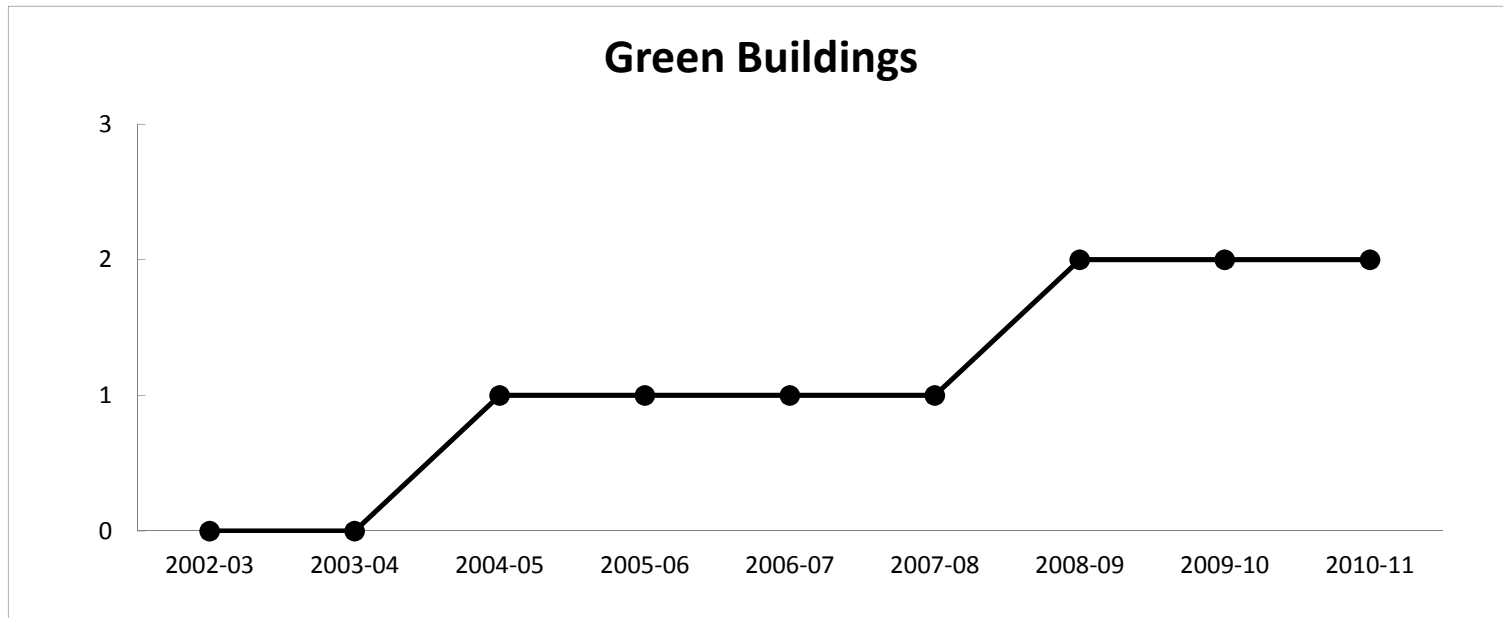
9 Campus Grounds and Land Use



General turf areas have been maintained with similar products over the last 10 years. Significant reductions in the lbs of nitrogen/acre-year took place from 1996 to 2000, when the fertilizer programs were significantly changed to reduce usage. The slight increase in application of fertilizer in 2011 is likely due to an increase of athletic field square footage, which require more care than other lawns. A more-comprehensive set of metrics is being investigated for the 2012 CSS.

A note about the data : lbs of nitrogen/acre-year is a common unit of measure in this field. Calvin uses 86 lbs nitrogen/acre-year, but a typical home lawn service applies up to 250 lbs nitrogen/acre-year.

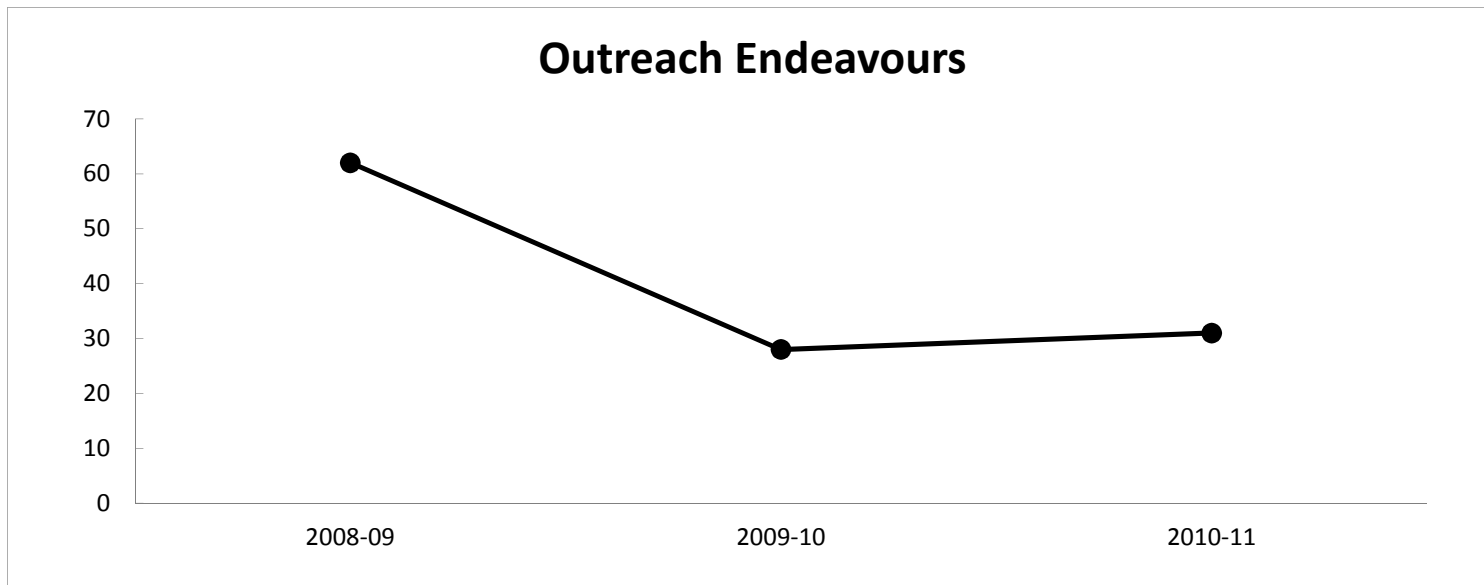
Building Construction: New and Renovation 10



Future construction is an opportunity to create more green buildings on campus. Silver LEED certification is being pursued for the future Campus Commons building.

A note about the data: The 2005 Bunker Interpretive Center was Calvin's first (and to date only) LEED certified building. (See <http://www.calvin.edu/academic/eco-preserve/bunker/> for more information.) The 2008 vanReken dormitory was built according to the spirit of the Statement on Sustainability, but narrowly missed certification due to a change in LEED scoring midway through the project. Learn more about the sustainable features of the vanReken dorm at <http://www.calvin.edu/admin/housing/residence-halls/vr-sustainability.html>.

13 Outreach



The 2010-20101 academic year was the third set of data obtained on the outreach activities of faculty and staff via the Faculty Activities Report. This metric attempts to capture faculty initiatives to raise awareness of sustainable activities and stewardly behavior in communities, churches, and other professional groups. Less extensive Faculty Activities Report (FAR) participation may have contributed to lower numbers in 2009-2010 and 2010-2011.

Acknowledgements

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Matthew Moore, Food Services: Local food data
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—ESC, April 2012