

CALVIN
College

Calvin Sustainability Scorecard

February 2009

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 each of the following pages. Not all topics are covered in this first version of the CSS; more measures will be developed in the future.

No assessment process or set of metrics are ever perfect, and this Calvin Sustainability Scorecard is no exception. It was designed (for this first time) to be simple, and therefore sustainable through time, and it includes mostly data that we routinely collect anyway. 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 sustainability wiki² to provide your feedback.

Summary

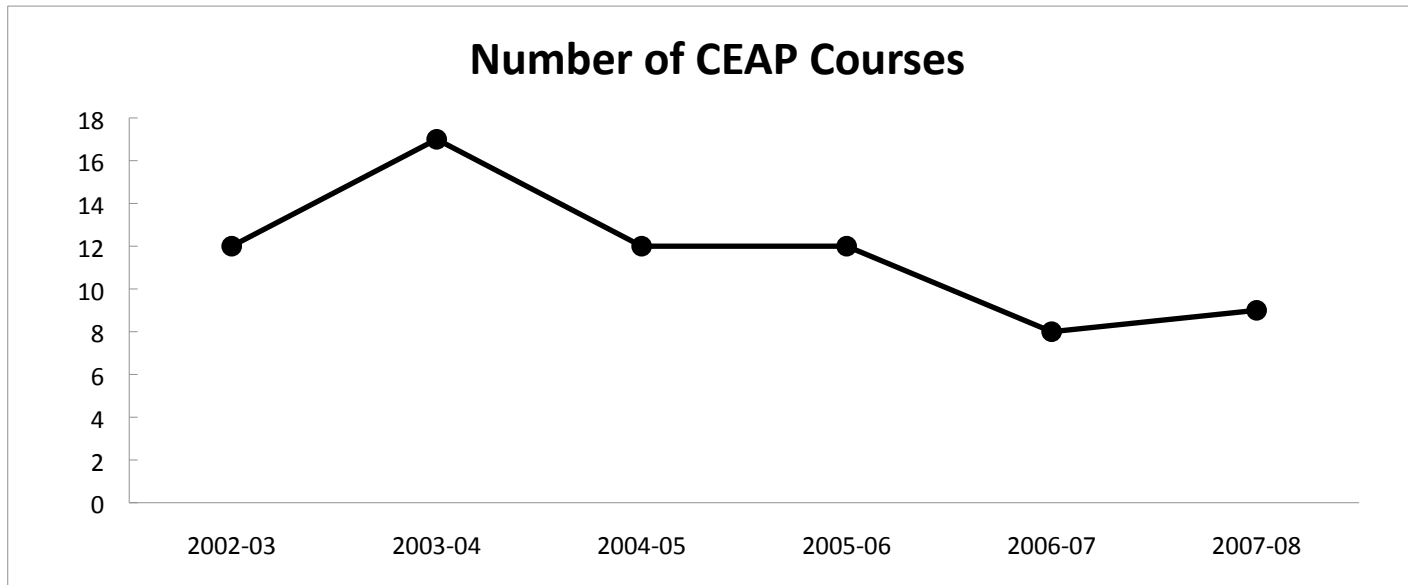
The goal of this first-ever Calvin Sustainability Scorecard (CSS) is to provide a means to assess annually progress toward the goals and objectives of the Statement on Sustainability¹. (Some of the sections in the Statement on Sustainability lend themselves well to numeric metrics, but others do not.) Doing so requires accounting for campus-wide behaviors in a new way: we're assembling a list of things we never counted before. In the process of so doing, we are becoming more accountable for the effects our actions have on the environment.

For this first-ever CSS, we refrain from passing judgment upon ourselves in the form of an overall grade or score. However, there are several success areas that deserve mention: the Calvin community continues to increase its use of mass transit, water usage is declining year-over-year, and recycling is increasing (although this scorecard doesn't include data for recent increases in the last year). Areas ripe for improvement include CO₂ emissions (which continue to rise) and the need for better accounting for teaching and research on sustainability issues.

¹ <http://www.calvin.edu/admin/provost/environmental/sustainabilitystatement.html>

² <http://kv.calvin.edu/go/csc>

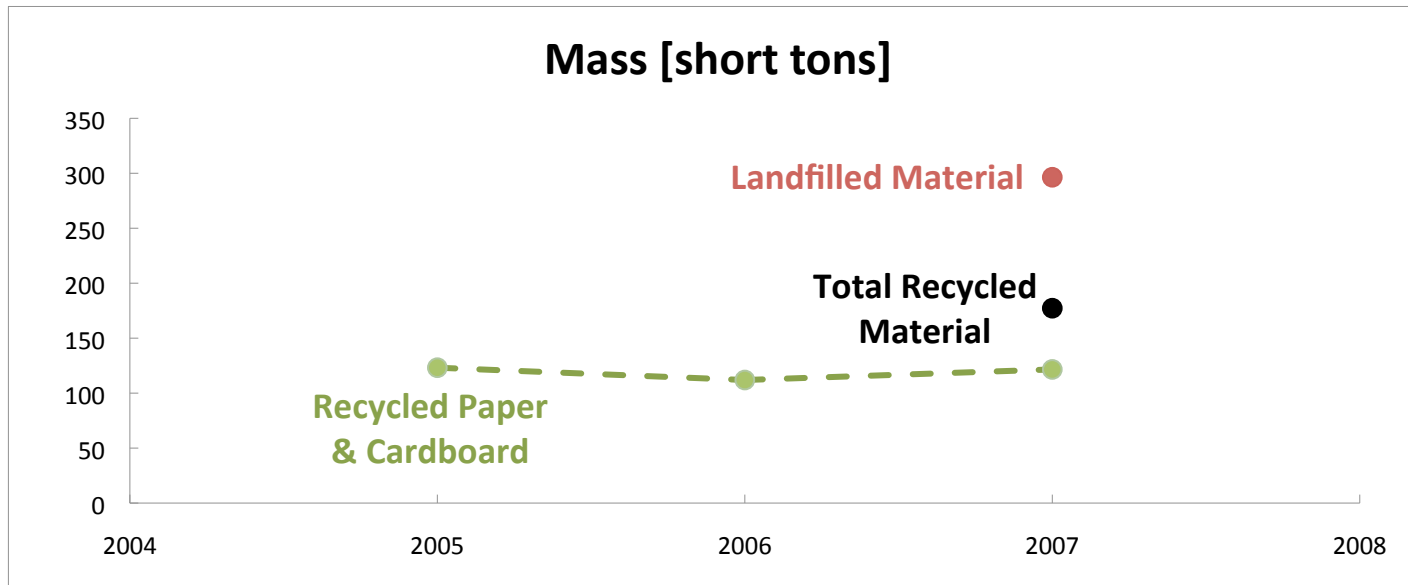
Teaching and Research I



The Calvin Environmental Assessment Program (CEAP) provides a home for courses that address environmental and sustainability themes. Each semester for the past 12 years, CEAP class projects and laboratory exercises introduced students to Creation care and sustainability issues, and an end-of-semester poster session provides opportunities for students to share the results of their research. The number of courses which include a CEAP component varies from semester to semester depending upon when courses are offered.

A note about the data: Some faculty have included CEAP projects in their classes without officially documenting this through the Service-Learning Center, thus the variation in reported CEAP classes from year to year in the graph above. In the future, the Office of Community Engagement will be developing improved measures for documenting teaching and research in the area of environmental sustainability.

3 Solid Waste Reduction and Recycling



Calvin College has a wide-ranging recycling program. 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. 2008 saw the beginning of efforts to compost organic waste generated from Grounds department activity. We seek to reduce the total amount of waste on campus and to increase the fraction of that waste that is recycled.

A note 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. Some of the recycling information is reported on a calendar-year basis. For the purposes of this scorecard, 2007-08 academic-year data is shown as year 2007 calendar-year data.

Energy Purchasing 4

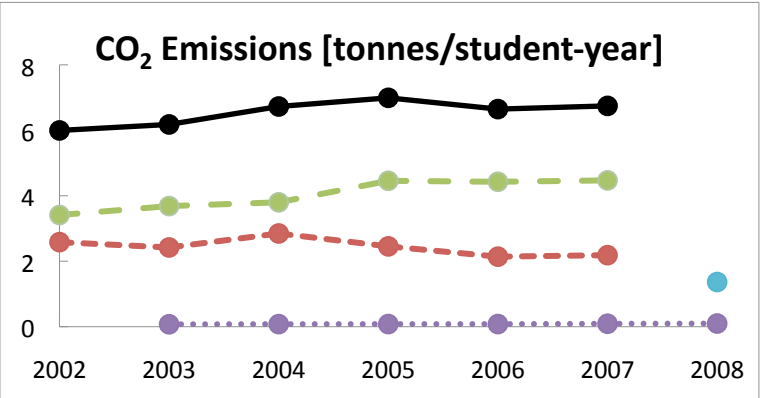
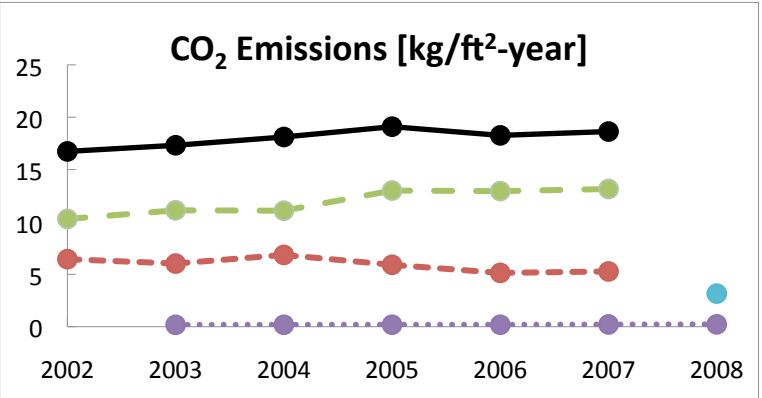
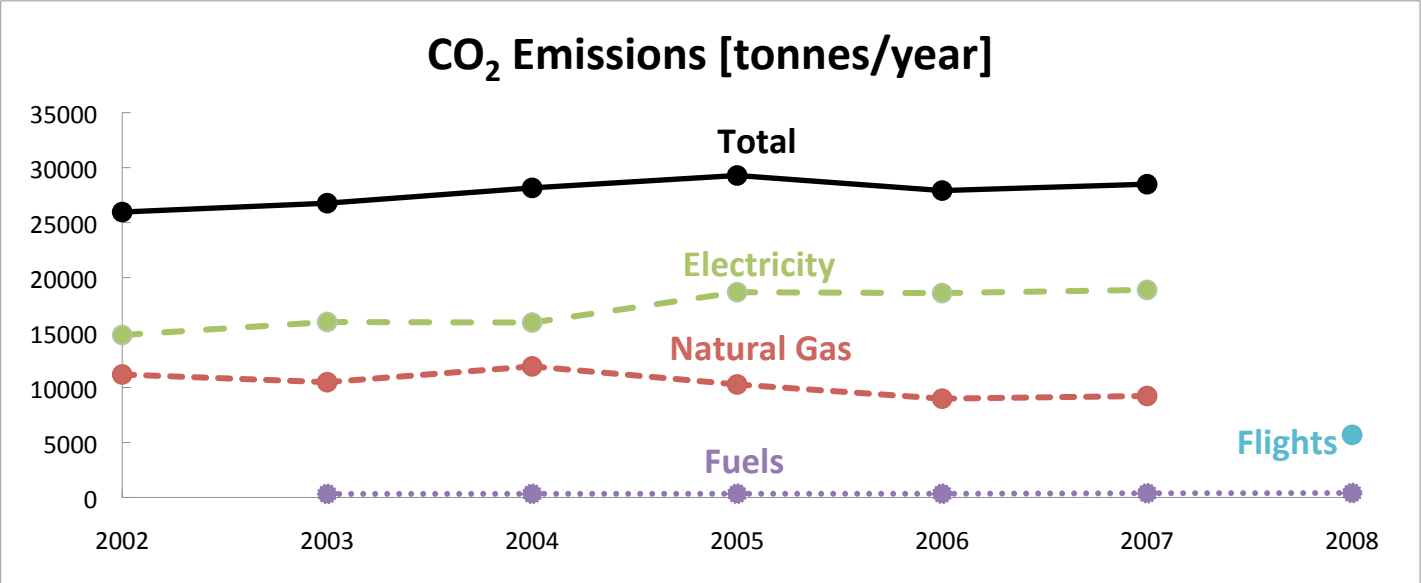
Greenhouse gas emissions (CO₂ included) are an important way to assess environmental impact. The Earth responds to total atmospheric CO₂ concentration. Carbon emissions "intensity" (emissions per student or per square foot of building space) is meaningless with respect to climate change caused by global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

However, for assessment purposes only, it can be useful to monitor greenhouse gas emissions "intensity" for the campus. Thus, both annual emissions per student and per square foot of building space are shown here.

Calvin's CO₂ emissions come from several sources, including electricity usage for illumination, cooling, computers, and other purposes; natural gas combustion for space space and water heating; vehicle fuel combustion (diesel and regular fuels); and airline travel.

A note about the data: Data for electricity and natural gas usage is difficult to obtain precisely, because Calvin receives well over 100 separate bills. Electricity usage is from Calvin's substation only, an area that includes dormitories, academic buildings, the Manor House, Prince Conference Center, DeVos Communications Center, and Calvin Crossing; it does not include Knollcrest East, Lake Drive houses, Ravenswood, the Bunker Interpretive Center, the Mail and Physical Plant buildings. Natural gas usage is reported from various meters on campus - all buildings that are located on contiguous property are included on one bill. It includes the same buildings as electricity except it also includes the Seminary and Parsonage, Mail and Print Services, Ravenswood, the Physical Plant Building, all Knollcrest East apartments, Seminary housing, the Bunker Interpretive Center, the Youngsma Center and "Surge Building", and properties at 3770 and 3830 Lake Drive, 3230 Burton, and 2041 Raybrook.

4 Energy Purchasing

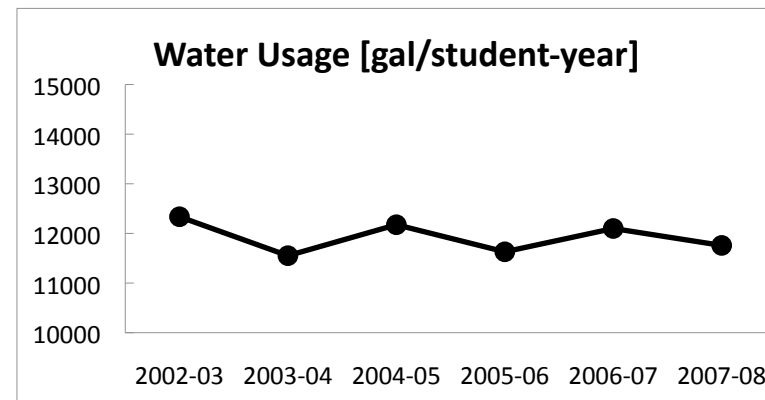
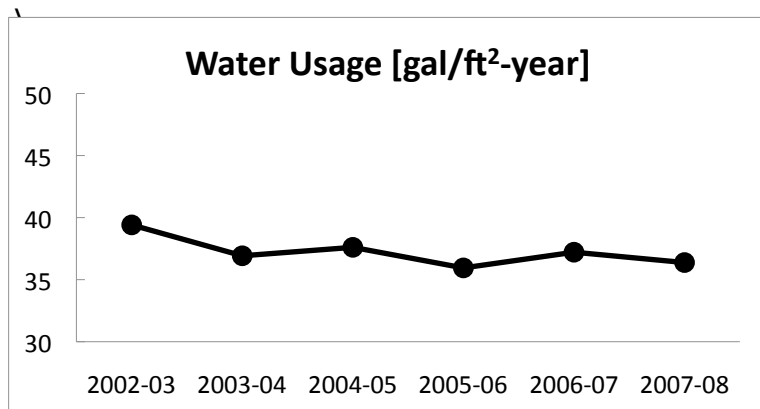
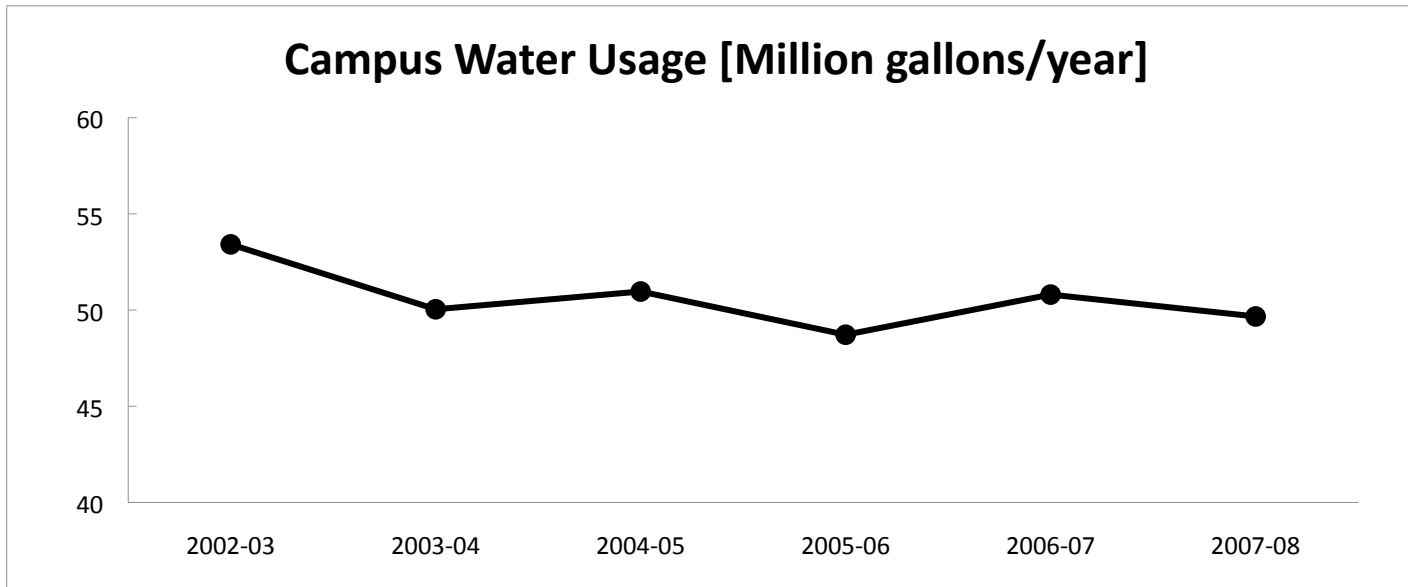


Water and Wastewater 5

Water usage is another way to assess environmental impact. We seek to reduce the consumption of water on campus. And, it is helpful to assess our per-student water usage, too. Water usage at Calvin is trending downward since 2002. Annual variations are likely caused by varying rainfall.

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

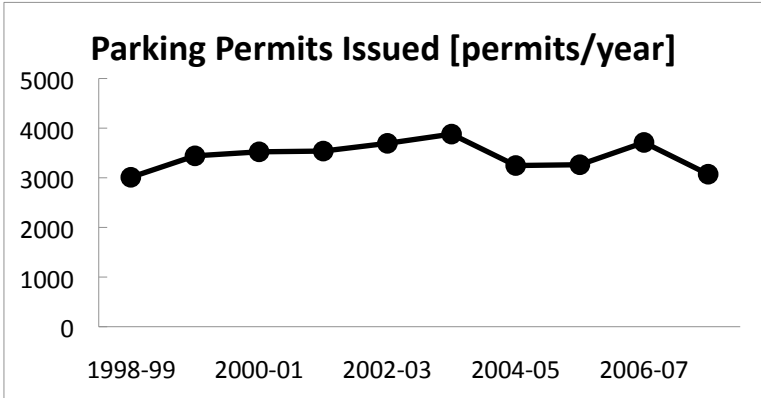
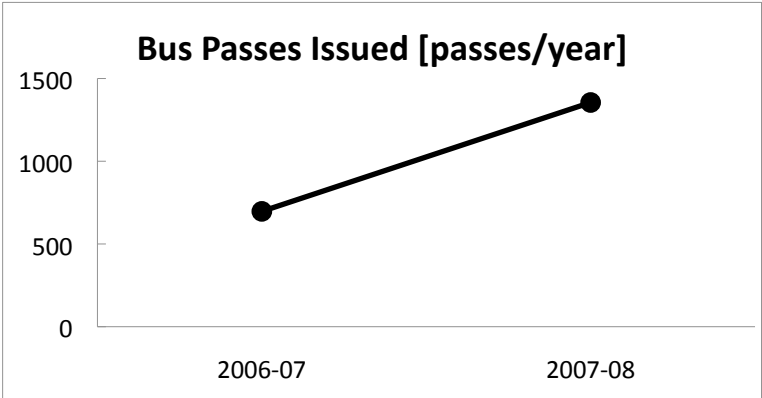
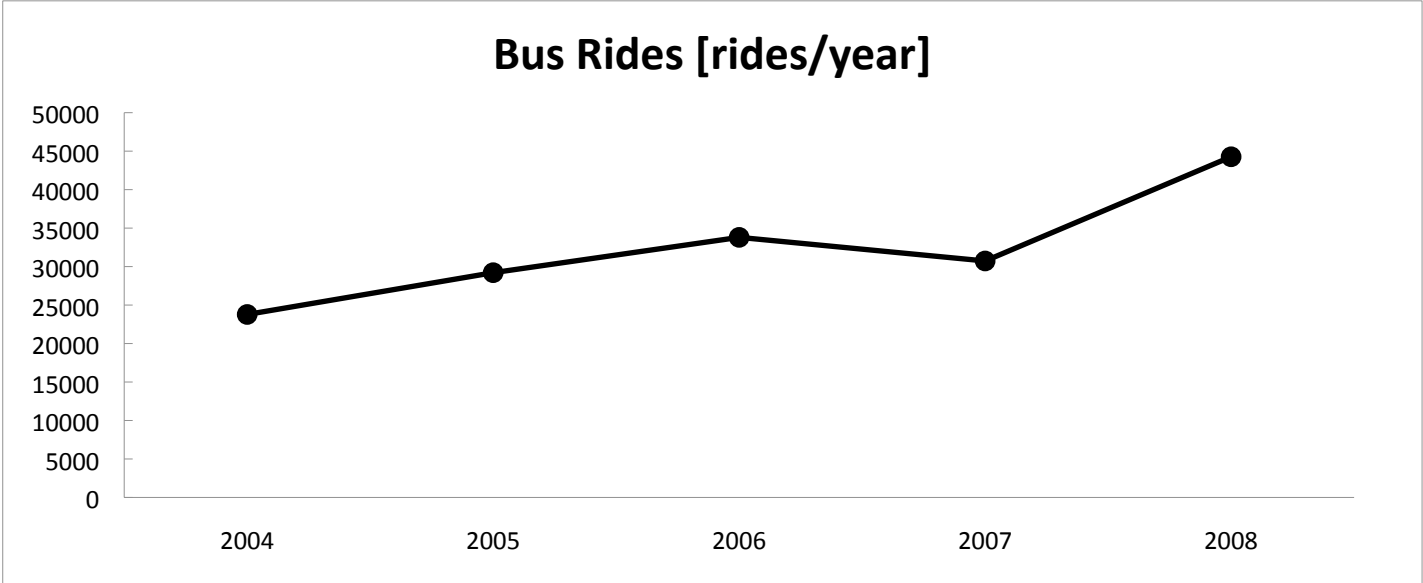


Transportation 7

Fewer people are driving to campus than ever before! Walking, biking, and bus riding are increasingly popular. Many factors are contributing to this trend, including the recent spike in gasoline prices, continued Calvin subsidy of the Rapid, and the increased availability of bike racks on campus. Everyone is encouraged to consider walking, biking, or riding the Rapid to campus.

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



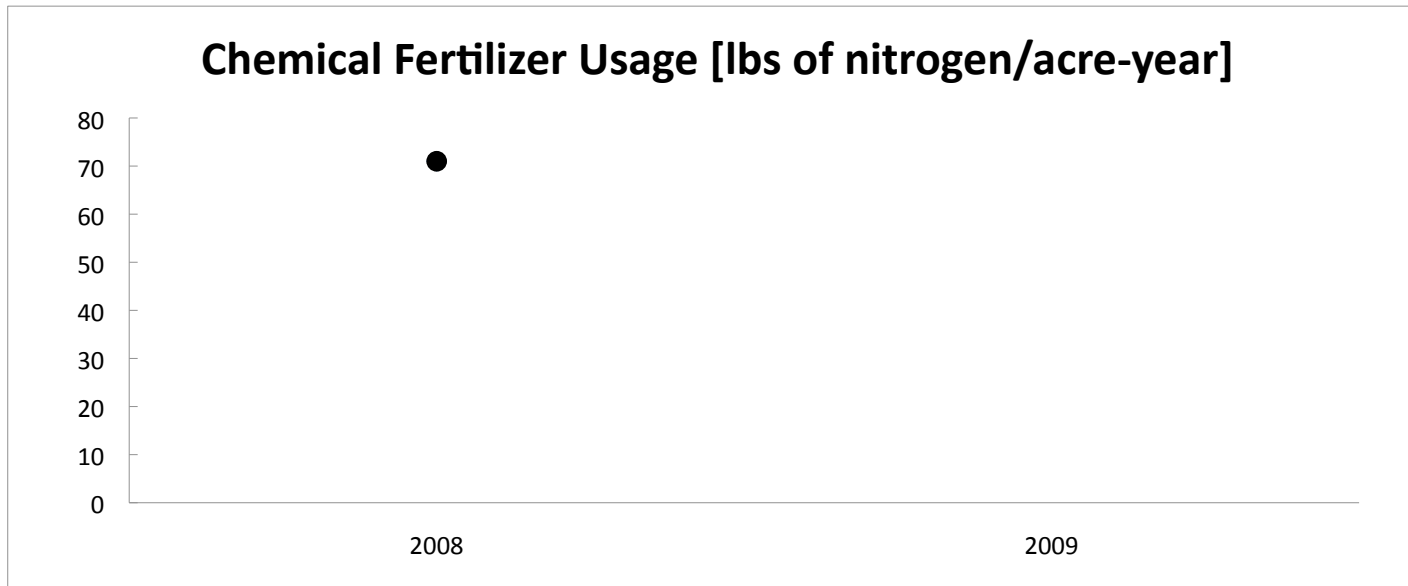
Food and Food Services 8



Calvin Food Service (CFS) strives to help its customers (students, faculty, and staff) to understand, practice and promote sound environmental policies concerning the reduction of food waste and the promotion of recycling. As a result, CFS works to stay abreast of environmental issues and to implement environmentally responsible policies whenever fiscally and practically possible. A major initiative involves purchasing local food.

A note about the data: The vast majority (73% by mass) of local food purchased by Calvin Dining Services is milk. 2008 is the first year that data has been collected for this purpose.

9 Campus Grounds and Land Use

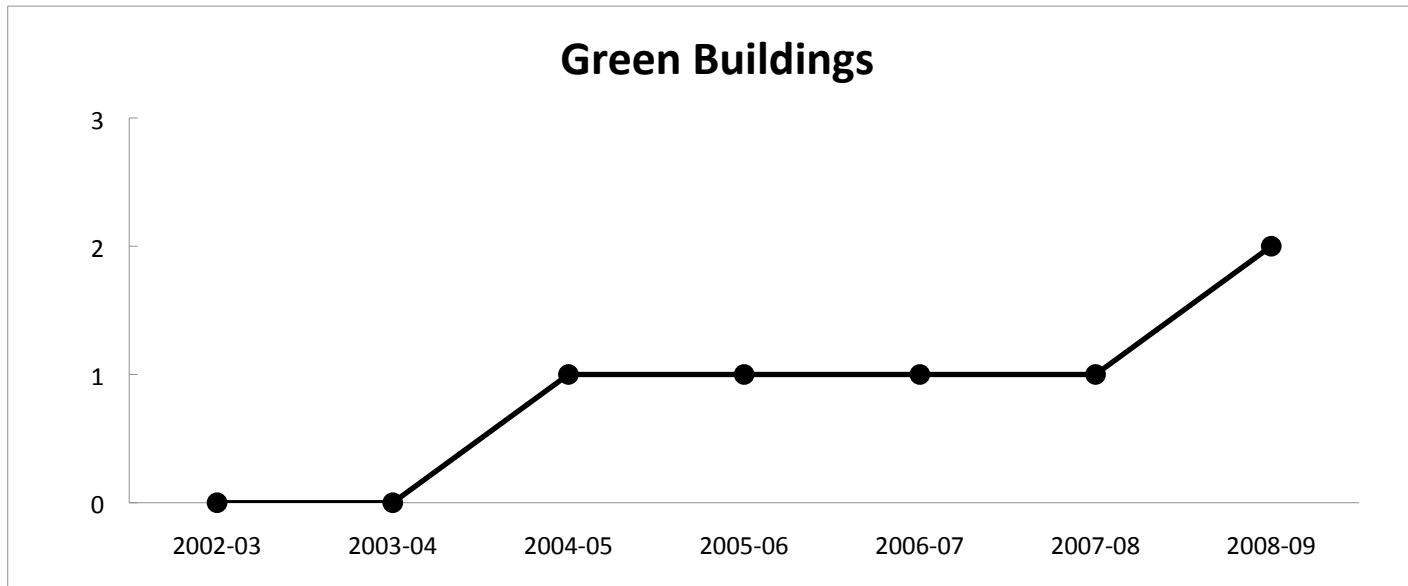


Natural areas, trees, open spaces, landscaping, and campus architecture combine to give the campus a stable and welcoming atmosphere. As a community, our commitment to sustainability begins with committed caring for the physical outdoor space we inhabit. In March 2008, Physical Plant began on-site composting. No "green waste" leaves campus!

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.

A note about the data: lbs of nitrogen/acre-year is a common unit of measure in this field. Calvin uses 71 lbs nitrogen/acre-year, but a typical home lawn service applies up to 250 lbs nitrogen/acre-year.

Building Construction: New and Renovation 10



Upcoming construction projects (including Fine Arts Center and Commons renovations) offer significant opportunities for sustainable development and teaching opportunities for students and staff. As of this writing, the Commons renovation bid process includes the requirement for LEED certification.

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>.

Acknowledgements

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Nola Nielsen, Physical Plant: Fuel data

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—Matthew Kuperus Heun, SustainabilityX, Engineering Department, Jan 2009