



Walking Our Talk

*The Union of Concerned Scientists Fiscal Year 2012
Sustainability Report*

**[Union of
Concerned Scientists**

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Message from the Executive Director

Change Begins at the Office

I'm pleased to present the Union of Concerned Scientists' sixth annual sustainability report, which covers our fiscal year 2012 (October 2011–September 2012). This report marks our tenth year of measuring and reporting our carbon emissions. A lot has changed from a sustainability perspective over the past decade; today, as a result of regular meetings with our analytical staff and ongoing partnerships with peer organizations, we have been able to not only fine-tune our reporting methodology for more accurate data analysis, but also explore new initiatives to further reduce our environmental impact. Our efforts are detailed in the pages that follow.

Our internal sustainability work is a natural extension of the work we do to promote change at the regional, national, and international levels. During this reporting period, we launched our Center for Science and Democracy with a Lewis M. Branscomb Forum dedicated to improving citizen access to governmental scientific information (visit www.ucsusa.org/scienceanddemocracy to learn more); we also launched our Half the Oil campaign (www.ucsusa.org/halftheoil), designed to cut projected U.S. oil use by 50 percent by 2035. We witnessed the closure of Chicago's two coal-burning power plants on the heels of our *Ripe for Retirement* report, and the strengthening of California policies that promote the development of zero-emissions vehicles and clean electricity resources. Additionally, our nuclear experts met with the Nuclear Regulatory Commission to present lessons learned from the Fukushima Daiichi nuclear disaster in March 2011, which can be applied here at home to make U.S. nuclear power plants safer and more secure.

Many of our external successes also affect our office environment, and that of offices everywhere, such as our efforts to clean the electricity grid and improve fuel efficiency. We look forward to building on these successes—both in our office and around the country—in the years ahead. Visit www.ucsusa.org for the latest news and updates on our work, and learn more about our sustainability efforts at www.ucsusa.org/sustainability.

A handwritten signature in black ink that reads "Kathleen Rest". The signature is fluid and cursive.

Kathleen Rest
Executive Director

The Union of Concerned Scientists (UCS) puts rigorous, independent science to work to solve our planet’s most pressing problems. Joining with citizens across the country, we combine technical analysis and effective advocacy to create innovative, practical solutions for a healthy, safe, and sustainable future.

Our work in climate, energy, agriculture, and transportation policy has helped reduce U.S. heat-trapping emissions exponentially greater than what we actually generate as an organization, but we also seek to model our commitment to a more sustainable world in our internal operations. To achieve this goal, the UCS Sustainability Task Force (STF) harnesses the expertise of our staff (both scientists and non-scientists) to bring a sustainability focus to all UCS decision making.

For more than 10 years we have measured and mitigated our environmental impact, with particular emphasis on the organization’s carbon footprint. This report details four major sources of our carbon footprint, measured in carbon dioxide equivalent (CO₂e) emissions: business travel, employee commuting, energy, and paper.

FY12 Emissions Overview

Our total emissions for fiscal year (FY) 2012 (October 1, 2011–September 30, 2012) were 937 metric tons CO₂e, an increase of about 3 percent over calendar year (CY) 2011 (see Table 1).¹

TABLE 1. Total Carbon Emissions, CY09–FY12

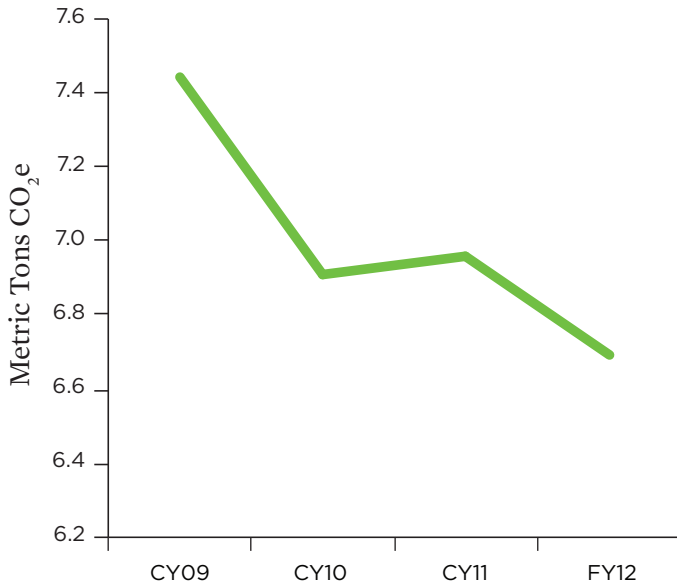
	Metric Tons CO ₂ e			
	CY09	CY10	CY11	FY12
Paper Use	233	228	219	276
Energy	284	249	256	246
Business Travel	192	195	294	287
Commuting*	188	129	137	128
Total	897	801	906	937

* CY09–CY11 commuting numbers vary from previously published figures. In FY12, UCS implemented a new methodology for accounting for commuting emissions, which was applied retroactively for the sake of comparison in this report.

That said, UCS reduced emissions in energy use, business travel, and employee commuting, and saw a decrease in its overall carbon intensity—that is, the amount of carbon emissions per employee. In FY12, UCS increased its staffing levels by more than 7 percent; however, our emissions on a per

¹ All previous UCS emissions inventory reports assessed organizational emissions over the calendar year (January to December); for the 2012 report, UCS transitioned to a fiscal year (October to September) reporting schedule, to align with the timing of the organizational planning season and better inform strategic decisions. Therefore, there are three months of overlap between the FY12 and CY11 emissions inventories (October, November, and December 2011).

FIGURE 1. Per Capita Carbon Intensity



capita basis decreased approximately 4 percent, to their lowest level since CY09 (see Figure 1).

Emissions from Paper Use

UCS measures emissions from paper use in three areas: publications and member communications; fundraising; and office paper.

Over the course of FY12, UCS produced 44 reports of various lengths, spanning the breadth of our programmatic work. These reports are integral to our success as an organization and are used by policy makers, scientists, concerned citizens, and the media alike. For example, our report *Ripe for Retirement* was a ground-breaking assessment of U.S. coal plants that were economically unviable; our findings helped lay the groundwork for efforts around the country, by UCS and our allies, to shift our energy away from dirty, expensive coal and toward cleaner, more reliable, and more affordable clean energy sources. Similarly, our report *The Clean Energy*



A sampling of the reports UCS produced in FY12. These reports have been used by policy makers, the media, and concerned citizens around the country to promote science-based solutions to today's pressing problems.

Race: How Do California's Public Utilities Measure Up? had a big impact at the California Energy Commission (CEC), where the state's Renewable Portfolio Standard rules were being developed at the time for publicly owned utilities. The CEC ended up adopting the methodology outlined in our report to evaluate the progress the utilities are making toward their goal of obtaining 33 percent of their electricity from renewable resources.

UCS also sends a variety of communications to our members—including our 16-page *Catalyst* magazine (sent three times per year) and four-page *Earthwise* newsletter (sent quarterly)—to apprise them of our work and the role we play in securing important victories. This is critical to ensuring their continued support and encouraging them to take action in their communities.

Finally, we use paper to keep our office running, whether it's faxing sign-on letters to policy makers, creating mailing labels, or delivering materials to staff in Sacramento and on the Hill.

THREE-YEAR PERSPECTIVE

In FY12, CO₂e emissions from paper use increased by approximately 25 percent overall (see Table 2). While office paper use decreased in FY12, despite an increase in the number of employees, emissions from fundraising mailings, publications, and member communications mailings increased. Part of this increase can be attributed to a larger membership base, which grew 8 percent compared with the previous year. UCS also produced over a dozen more reports compared with the previous year. UCS calculates the emissions data by using the Environmental Paper Network's (EPN's) Paper Calculator, an online tool originally developed by the Environmental

TABLE 2. Paper Use, CY10–FY12

	Metric Tons CO ₂ e		
	CY10	CY11	FY12
Fundraising	179.58	170.51	219.45
Publications and Member Communications	43.96	43.45	51.94
Office Paper	4.46	5.19	4.16
Total Emissions	228.00	219.15	275.55
Per Employee Emissions	3.04	1.68	1.97

Defense Fund and now managed by EPN to help organizations make greener paper purchases and more accurately report their paper footprints.

KEEPING PAPER USE EMISSIONS AT A MINIMUM

UCS employs several strategies to keep paper use emissions to a minimum. For example, in all of our offices we use 100 percent post-consumer recycled, Forest Stewardship Council-certified paper, and have our printers set by default to double-sided printing and black ink. In our publications and fundraising mailings, we strive to use paper with the highest post-consumer recycled content available to fit a given project's needs, and to use vegetable-based inks. Since 2011, we have used a paperless system called Concur for all of our employee expenses and travel arrangements; looking forward, UCS plans to increase paperless reporting beyond Concur. We have also developed a tool to help staff estimate how many copies of a new publication they will need for various purposes so we can minimize printing of excess copies.

Emissions from Electricity and Natural Gas Use

In FY12, UCS generated approximately 246 metric tons of CO₂e emissions from energy use at our four offices (Cambridge, MA; Washington, DC; Berkeley, CA; and Chicago, IL) through 8,422 therms of natural gas and 447 megawatt-hours (MWh) of electricity. This represents an overall 3.9 percent decrease in our energy-related emissions over CY11 figures, and a 13.4 percent decrease over our 2009 baseline (see Table 3).

TABLE 3. Energy Use

	Metric Tons CO ₂ e			
	CY09	CY10	CY11	FY12
Natural Gas	63.0	42.9	50.8	45.9
Electricity	221.0	206.5	205.0	200.0
Total Energy	284.0	249.4	255.8	245.9
Net Emissions (after green power purchase)	63.0	42.9	50.8	45.9

In FY12, UCS achieved a 3.3 percent reduction in the amount of electricity used across the organization (which corresponded with a 2.4 percent reduction in emissions from electricity use), and decreased natural gas use by 9.6 percent, compared with CY11 energy usage. Our per-capita energy use also decreased from CY11 (see Table 4, p. 6).

TABLE 4. Natural Gas and Electricity Use per Employee, CY11–FY12

	Metric Tons CO ₂ e		
	CY11	FY12	% Change
Natural Gas	0.39	0.33	-15.38
Electricity	1.57	1.43	-8.92

GREEN POWER PURCHASES

While we are working to reduce our energy use across the organization, we are also committed to making sure that, for every MWh of electricity we use, a MWh of electricity generated using renewable resources is delivered to the grid. UCS has chosen to match 100 percent of its offices’ electricity use with renewable energy credits (RECs). RECs represent the environmental benefits of renewable energy generation; one REC is equal to one unit of electricity generation (typically 1 MWh). In FY12, UCS purchased 447 RECs to cover its electricity consumption.

UCS purchases RECs from 3Degrees, a four-time winner of the Department of Energy’s Green Power Leadership Award. These RECs are generated by solar photovoltaic arrays installed on schools in California and by Midwest/Mid-Atlantic wind farms. These RECs are certified by Green-e Energy, the nation’s leading voluntary certification program



Photo courtesy of 3Degrees, Inc.

UCS purchases renewable energy credits from solar arrays installed on schools in California, such as the one shown here.

for renewable energy. For more than a decade, Green-e Energy has been certifying renewable energy that meets environmental and consumer protection standards that it developed in conjunction with leading environmental, energy, and policy organizations, including UCS. UCS helped develop Green-e standards and has sat on the organization’s advisory board since.

REDUCING ENERGY CONSUMPTION IN UCS OFFICES

We have taken a number of steps to reduce the energy used in our buildings, starting with retrofitting and renovating our offices to maximize efficiency. We have prioritized the natural light available to our workspaces, and our lighting fixtures use highly efficient fluorescent and LED (light-emitting diode) bulbs wherever possible. In Cambridge, we installed solar panels on the roof of our building in 1996 that generate 2.2 MWh of electricity per year—a small portion of our overall electricity use, but an important part of our larger energy-efficiency and emissions-reduction efforts. In Washington, DC, our office on K Street has earned LEED (Leadership in Energy and Environmental Design) certification from the U.S. Green Building Council for the build-out of our interior office space. Our gold-level LEED certification shows the emphasis we placed on energy and environmental impacts in the building.

The Environmental Protection Agency’s Simplified GHG Emissions Calculator provides detailed region-specific emissions data, allowing us to fine-tune the emissions from our electricity use by using the emissions factors for the electricity grids



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RECs generated from the Benton County wind farm, shown here, help offset our offices’ electricity-related emissions.

serving each of our offices. As a result, the electricity emissions reflect the relatively cleaner electricity mix on the Berkeley and Cambridge grids as well as the relatively dirtier electricity mix on the grids serving Chicago and Washington, DC.

An important part of knowing how and where to focus our energy-savings efforts is having good, solid data—in this case, about our office energy use. Yet UCS, like many other organizations and institutions, shares office buildings. Most of our offices are independently metered for electricity so we can receive direct bills, but our Washington, DC, office is not; none of our offices are independently metered for natural gas. When office-specific energy emissions data are not available, we have to estimate our use based on the percentage of floor space we occupy. Our Berkeley and Cambridge offices comprise roughly half of our respective buildings' total space, so we have greater confidence in our percentage of total natural gas use than we do in our other offices, which are in much larger buildings.

Such arrangements are common, yet they can present problems—first in understanding our energy use accurately, and second in gauging the effectiveness of our efforts to cut that energy use, given that we cannot assume that our neighbors are implementing the same strategies. As a result, UCS could be the most efficient tenant in the building, but if we are surrounded by energy hogs, our impacts would be masked and overstated.

This is obviously a less-than-perfect situation, particularly because we are unable to quantify the direct results of some of the efficiency efforts we put in place. In the future, we will explore the feasibility of getting our Washington, DC, office sub-metered as a way to better determine our electricity use. Still, we continue to look for opportunities to better understand and decrease our electricity and natural gas use.

Emissions from Business Travel

To advance our strategic goals, UCS works with leading academic experts, policy makers, the media, and our supporters in the United States and around the world. Maximizing these opportunities often requires staff travel. Our work in FY12 took UCS experts to places such as Vancouver, British Columbia, where we spoke with thousands of scientists at the American Association for the Advancement of Science about the intersection of science and policy; Durban, South Africa, where we successfully negotiated science-based policy changes to international forest conservation protocols; and the Los Angeles Auto Show, where we demonstrated to the national and international automotive press how federal fuel economy standards—which we had a major hand in shaping over the years—are giving drivers cleaner car options

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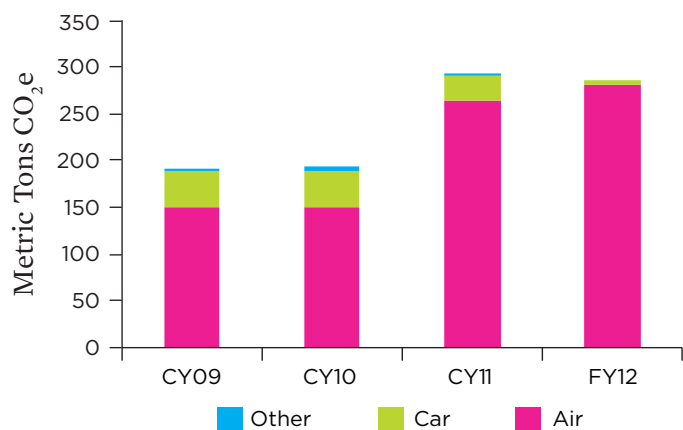
and helping meet our goal of reducing projected U.S. oil consumption in half in 20 years.

But with travel comes emissions. UCS business travel in FY12 generated a total of 287 metric tons of CO₂e emissions.

ASSESSING CARBON EMISSIONS FROM AIR TRAVEL

Business travel emissions are dominated by air travel. As Figure 2 shows, carbon emissions from air travel for UCS staff in FY12 were slightly lower than in 2011, but almost double our air travel emissions in 2009 and 2010. The decrease in air travel in 2009 and 2010 may be due to the economic recession and tighter UCS travel budgets, from which we are now beginning to recover, in addition to lower staff numbers in previous years.

FIGURE 2. UCS Business Travel Emissions, CY09–FY12



Not surprisingly, flight length is the determining factor in overall air travel emissions. We considered three flight-length categories:

- **Long haul** (greater than 2,300 miles)—Most international and cross-country domestic flights (e.g., Boston–San

Francisco, DC–San Francisco) fall into this category. UCS took 233 one-way long-haul flights in FY12; while these flights accounted for only 18 percent of total UCS business-related flights, they accounted for 157 metric tons of CO₂e emissions, or 56 percent of total air travel emissions.

- **Medium haul** (301–2,299 miles)—Most continental flights in the United States are in this category. Medium-haul flights accounted for the majority of UCS business-related flights (71 percent), but accounted for only 41 percent of total air travel emissions. UCS took 947 one-way medium-haul flights in 2012, almost half of which were for interoffice travel: 392 between Boston and DC, 42 between Boston and Chicago, and 27 between DC and Chicago.

Passenger vehicle emissions related to business travel dropped 80 percent from 25 metric tons CO₂e to 5 metric tons CO₂e between CY11 and FY12.

- **Short haul** (300 miles or less)—These flights are infrequent for UCS staff, and thus accounted for only 3 percent of total air travel emissions. UCS took 149 one-way short-haul flights in FY12.

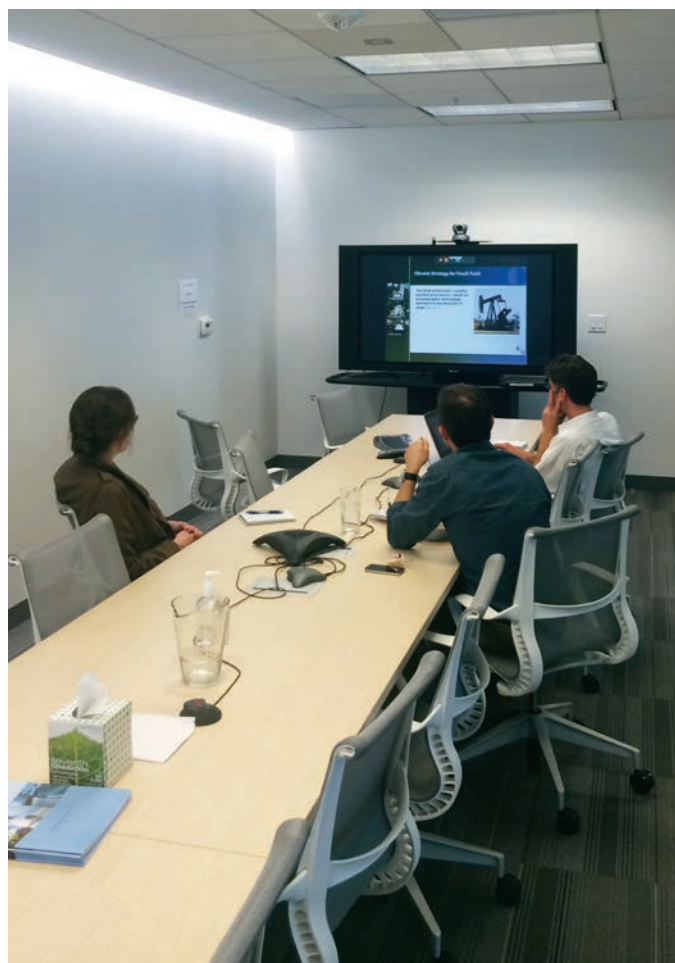
ASSESSING CARBON EMISSIONS FROM OTHER TRAVEL MODES

Business travel by passenger vehicle is the second-largest source of business-travel-related carbon emissions. Emissions in this area have improved significantly in recent years, dropping from 25 metric tons CO₂e to 5 metric tons CO₂e between CY11 and FY12. The use of new business travel data collection software from Concur, an online travel and expense management service, may have partially contributed to the reduction in reported emissions by more accurately capturing vehicle travel compared with past reporting methods. In addition to providing data we can use for calculating travel-related emissions, Concur allows staff to quantify and compare the carbon emissions of their travel options. Although Concur does not track Amtrak, bus, taxi, or subway travel, which was captured in the past, business-related travel from these sources was negligible in previous years (accounting for less than 2 percent of total business travel emissions).

The exclusion of such travel categories in this and future sustainability reports will not have a significant impact on travel-related emissions data overall. FY12, therefore, will be the new baseline year for future non-air travel carbon emissions data.

REDUCING EMISSIONS FROM BUSINESS TRAVEL

UCS has invested significantly in phone and video conferencing in recent years to reduce the frequency of interoffice trips. After the video conferencing system was fully implemented in 2008, short-haul air travel decreased more than 50 percent, from 29,345 to 14,136 miles in CY09. The conferencing system has also helped keep per-employee travel emissions at bay even as UCS has added staff. However, it is still necessary for UCS staff to travel between offices, particularly between Cambridge and Washington, DC—a trip frequently required for either personnel-related purposes or for legislative work and one that highlights the challenges in reducing our business travel emissions. From a scheduling perspective, we work



Utilizing video conference services allows UCS staff to participate collaboratively in organizational discussions without needing to fly to other offices.

hard to combine purposes for these trips and consolidate them into as few trips as possible.

Despite the necessity of business travel and the lack of alternatives for medium- and long-haul trips, we have targeted two areas to help address travel emissions in FY13. Beginning in May 2012 UCS implemented a new vetting process for international travel, and travel budgets for FY13 were also reduced. These will likely trim business travel-related emissions, at least in the near term.

LOOKING FORWARD

Although UCS already requires employees to travel coach and encourages direct flights (even if it is more expensive than a one-stop flight)—two strategies that reduce per-passenger air travel emissions—we are also exploring ways to further increase employees’ awareness of their travel emissions and help them make informed decisions. For example, we are exploring partnerships with peer nonprofits and businesses to ask the airline industry to provide consumers with information about the carbon emissions of their flight options. And, as UCS continues to use the Concur travel program, staff will explore how to better utilize its features to help choose lower-carbon travel options.

Emissions from Employee Commuting

Given the nature of our work, UCS employees are predisposed to factor environmental sustainability into their personal decision making. In FY12, 64 percent of all employee commutes utilized low- or no-carbon forms of transportation such as bikes and trains. As a result, total commuting-related emissions decreased by more than 6.6 percent from CY11 to FY12; per-employee commuting-related emissions decreased by more than 13 percent despite steady staff numbers (see Table 5).

The STF collects commuting data through an annual employee survey that asks staff to describe their average daily commute, including distance and mode of transportation, as well as how frequently they make that commute (the vast majority of our employees are full-time in-office workers, though there are some staff that work part-time or remotely). UCS places an important emphasis on this survey, as it is the sole means of measuring our sustainability in this area and determining where we can improve. The STF continuously works to improve the accuracy of this survey by analyzing previous surveys, finding reporting gaps, and refining survey questions to more accurately gather data and quantify results.

TABLE 5. Employee Commuting, CY11 – FY12

	CY11*	FY12
Total Miles Traveled	563,864.54	629,405.66
Total Emissions (Metric Tons CO₂e)	137.32	128.20
Per-Employee Emissions (Metric Tons CO₂e)	1.06	0.92

* CY11 commuting numbers vary from previously published figures. In FY12, UCS implemented a new methodology for accounting for commuting emissions, which was applied retroactively for the sake of comparison in this report.



UCS staff en route to our Washington, DC, office. About half of UCS staff bike to work part or all of the year.

KEEPING COMMUTING EMISSIONS AT A MINIMUM

Our success in limiting commuting-related emissions can be attributed to several key UCS sustainability initiatives. Aside from having an environmentally conscious staff and offices close to public transportation, UCS encourages sustainable commuting in a variety of ways. UCS offers pre-tax public transportation passes, allowing employees to purchase bus, subway, and commuter train passes at a lower cost. This benefit is offered to all employees and regularly promoted by the STF. Moreover, UCS discourages driving to work by not offering free parking at any of our offices. As a result of these and other initiatives described below, UCS staff decreased the amount they drove by almost 8 percent (see Figure 3, p. 10, for details).

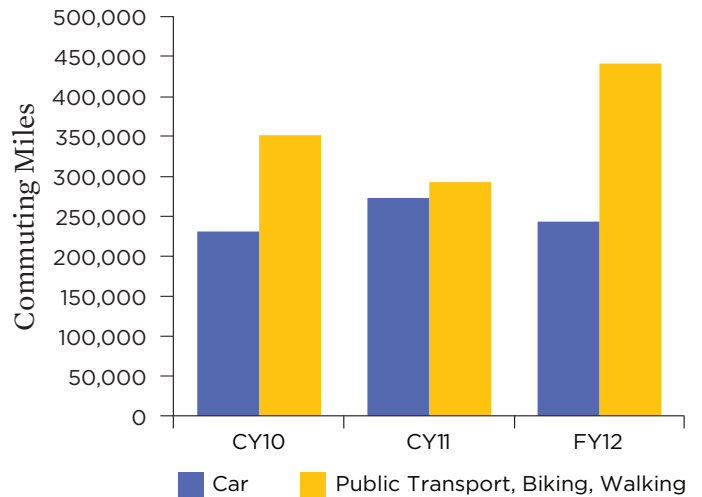
The increase in biking and walking commuting must be attributed, in part, to the remarkable efforts of staff members Austin Hoffmann and Gretchen Goldman, who lead the organization's efforts to promote low-carbon commuting during Bike-to-Work Month each May. While most national bike-to-work events focus primarily on biking, UCS expands it to cover *all* carbon-neutral travel including walking and Rollerblading. To encourage participation we have a competition to see which office and/or department logs the most carbon-free miles; offer seminars on topics such as bike safety and biking in inclement weather; provide in-office bicycle maintenance; host happy hours and social activities; and run a "Bike Ambassadors" program that helps new bicyclists locate safe routes to work. In May 2012, UCS employees biked, walked, or Rollerbladed a total of 3,800 miles on their commutes to work for our annual Bike-to-Work Month. Also important to note is that UCS participation in this event grew from 2011, with total participation up from 62 to 71 staff members and total mileage up by 325.9 miles.

Year round, our employees take advantage of our centrally located offices, which have close proximity to public transportation and bike lanes. All UCS offices offer secure, on-site bike parking and our two largest offices offer showers. These efforts have fostered a work culture that promotes and encourages sustainable commuter travel.

Several UCS staff carpool with colleagues or friends in their neighborhood to get to work. For example, Kamenko Pajic,

UCS staff biked, walked, or Rollerbladed a total of 3,800 miles on their commutes to work for our annual Bike-to-Work Month in May 2012.

FIGURE 3. UCS Commute Miles, by Mode of Transport



Vesna Toukalek, and Heather Heiser, accompanied by Maya (Kamenko and Vesna's Portuguese Water Dog) carpool every day to the Cambridge office from Pembroke and Whitman, MA. In addition to reducing their commuting emissions, they also reduce traffic headaches caused by congestion.

Through FY14, the STF plans to expand low-carbon commuting resources for staff, including compiling information on low-carbon commuting resources as well as providing further information and increasing awareness through brown-bag lunches.

ACKNOWLEDGMENTS

UCS would like to recognize the tremendous effort of the members of the Sustainability Task Force and other members of UCS staff who collected and analyzed data for this report and participated in the writing process. The Sustainability Task Force is an all-volunteer group of UCS staff representing every department and program, who go above and beyond their normal roles to ensure that UCS emissions reporting is as rigorous and transparent as possible, and that UCS continues to be a leader in discussions surrounding sustainable workplaces.

Union of Concerned Scientists

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