

5 Years Already?

Like they say, time flies when you're having fun. Or, in our case here at TCI, when you're installing solar panels, wiring vending misers, speaking at conferences, teaching classes, or any of the dozens of other things that always seem to be happening! We recently had the opportunity to bring in many TCI advocates from our first 5 years and have a discussion on what has worked, what hasn't, and what TCI's future looks like. This meeting was also the impetus for a new 5 year report that details our past work. If you'd like a copy of the report, please visit our website at www.tufts.edu/tci or call us at 617.627.5517.

Just a few of the highlights from our first 5 years:

- \$500,000 grant for the Massachusetts Technology Collaborative for Tufts' new solar dorm, Sophia Gordon Hall
- Hundreds of students from a wide array of majors have worked with TCI on emissions reduction projects
- Given away more than 3,000 compact fluorescent light bulbs
- Completed a university-wide greenhouse gas inventory and updated it annually
- Arranged for hybrid and electric vehicles to be used at Tufts

It's been a great 5 years, but we're even more excited about the 5 years ahead of us!

Electric Lawn Mower Cuts More than Grass!

Tufts is expanding its use of alternative fuel vehicles. With financial help from the Tufts Institute of the Environment, Tufts University purchased an electric riding mower to pilot test, reduce noise, reduce emissions and educate the campus about new technologies.

The Electric Ox, made by the Electric Tractor Company, is used by the Tufts facilities department for mowing grass in Medford. It can also be used for towing and snow plowing.

Washing Away Carbon

This summer, Tufts has taken another significant step to reduce its ecological footprint by installing over 100 front-loading washing machines.

Tufts University dormitories have coin-operated washers and dryers that are leased from Mac-Gray. The Tufts Climate Initiative and Tufts Dining Services (who oversees the washing machine contract) have been working for several years with Mac-Gray on a plan to switch the Medford campus to front-loaders.

The Medford campus has 125 washing machines that are used mostly by students in their residence halls. On average, each washer is used about 700 times a year.

In the past three years, 55 top-loaders were replaced with Maytag Neptune washers, resulting in savings of almost 700,000 gallons of water every year.

This summer, Mc Gray placed another 46 washers, bringing the total to 101 front loaders. (In 24 of the small wood frame houses, the washers were not replaced for space and other logistical constraints.)

Students pay \$1.25 for each wash cycle. The university contemplated to switch to a flat fee for washing machine access but chose not to do so, primarily to avoid wasteful behavior.

Each front loader will save the university about 17,000 gallons of water per

year. In total, the switch to front-loaders will save about \$23,000 in water, sewer and energy costs and cut carbon emissions by over 30 tons a year.

* Laundry Facts *

Front-loading washing machines use:

- 40 to 60% less water
- 30 to 50% less energy
- 50 to 70% less detergent than top-loaders!

Most of the energy used for washing clothes is consumed for heating the water. A typical top-loading washer uses about 40 gallons of water as compared to only 20 to 25 gallons in a front-loader.

Front loaders also reduce drying time considerably because they spin much faster.

In Europe, more than 90% of washing machines are front-loaders, compared with less than 5% in the U.S.



The Ox uses about 2.0 kWh per hour of mowing while a traditional tractor mower

uses about 1 gallon of gasoline per hour of mowing. Mowing for an hour with the Ox releases about 3 lbs of CO₂ into the atmosphere, whereas mowing with a traditional mower for an hour releases about 22 lbs of CO₂ into the atmosphere. **Over a single year, the electric ox will cut CO₂ emissions by over 5000 pounds.** Moreover, other air pollutants are cut very significantly. The electric ox is also quieter, an important factor in an university environment.

Making Labs Energy Efficient

In the spring of 2004, TCI partnered with the Tufts Institute of the Environment to hire Scott Taylor, a graduate engineering student, to research the energy-efficiency potential in university laboratory fume hoods.

Fume hoods are large energy users since they run constantly, exhausting conditioned air from a room.

Scott first did extensive research on existing energy-efficiency studies and technologies (the most noted resource being Labs21, a government sponsored group dedicated to improving the environmental sustainability of US laboratories, www.labs21century.gov).

Scott worked very closely with Tufts Facilities (Elliott Miller and Betsy Isenstein) and Environmental Health and Safety (EHS) (Peter Novak and Nick Magliano). Out of a list of approximately 600 fume hoods supplied by EHS he surveyed about 200 on the Boston and Medford campus.

The information gathered was then extrapolated to determine the approximate energy usage from the University's fume hoods.

Scott focused on two energy-efficiency technologies: **Phoenix Controls** (an energy-saving device that can be added to an existing fume hood) and **Low Flow Fume Hoods**. He found that although Low Flow Fume Hoods are more expensive than conventional hoods, their energy-savings justify the higher up-front costs. Phoenix controls have, under ideal circumstances, an even higher savings potential than Low Flow Fume Hoods, yet they require significantly more maintenance and are more easily tampered with than Low Flow Fume Hoods.

Scott concluded his semester at TCI with a lengthy report that includes all his findings. The report can be ordered by e-mailing anja.kollmuss@tufts.edu.

Get Energized!

Clean Energy for Tufts

Panel Discussion

Wed. Sept. 29, 2004, 4-7pm
Pearson 106
Tufts Medford Campus

Zippping Around Boston

On the Boston campus and looking for wheels? Now TCI and Zipcar give you another option.

TCI, Zipcar, and the Transportation department on the Boston campus have worked together to place RAV4 'Roy' at 150 Harrison Ave. Roy is one of 4 RAV4 electric vehicles (EV) that Toyota has donated to Tufts for community use. The other EVs are in use on the Medford campus, with one being used by Zipcar (it's parked at West Hall) and the other 2 used by Mail Services and Public Safety (they're parked at Dowling).



Boiling Point By Ross Gelbspan

In *Boiling Point*, Pulitzer Prize-winning journalist Ross Gelbspan argues that, unchecked, climate change will swamp every other issue facing us today.

He reveals how the fossil fuel industry is directing the Bush administration's energy and climate policies -payback for helping Bush get elected. Even more surprisingly, Gelbspan points a finger at both the media and environmental activists for unwittingly worsening the crisis. Finally, he offers a concrete plan for averting a full-blown climate catastrophe.

According to Gelbspan, a proper approach to climate change could solve many other problems in our social, political, and economic lives. A passionate call-to-arms and a thoughtful roadmap for change, *Boiling Point* reveals what's at stake for our fragile planet. (Excerpted from: www.amazon.com)

TCI has been working with Zipcar since 2003 to provide transportation solutions to our students, faculty, and staff. More than 150 people have signed up for the program so far; if you want to sign up, visit www.zipcar.com/tufts and sign up for only \$25.

By offering Tufts community members another option besides driving, we're helping to reduce greenhouse gas emissions, while supporting local business and promoting good urban design. Join us in welcoming Roy to campus by going down and taking him for a spin!

An "AlterNet" Way of Getting Around

Have you thought about carpooling to campus, but had no idea how to set it up? Now Tufts and AlterNet Rides have partnered to take the guesswork out of carpooling.

Through AlterNet Rides' program, members of the Tufts communities who are interested in carpooling can be put in touch with one another. The website (<http://AlterNetRides.com/?Destination=81816488>) walks you through the steps necessary to join the program.

The innovative system means that you don't have to reveal any personally identifiable information other than your first name to use the system. Once you have found a potential ride, then you will trade information with that person to set up the ride. This program is being used by universities and businesses around the country and we are excited to bring the program here to Tufts! If you have any questions about the program, please call TCI at 617.627.5517.

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