

Tufts First University to join Chicago Climate Exchange



**Editorial by
Prof.
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This fall Tufts became the first university to join the Chicago Climate Exchange®, a greenhouse gas emission reduction and trading pilot program for emission sources and offset projects. Tufts joins other members who are making voluntary, legally binding commitment to reduce their emissions of greenhouse gases by four percent below the average of their 1998-2001 baseline by 2006, the last year of the pilot program.

Our decision to join the Exchange was not taken lightly. After careful analysis, we concluded that this voluntary program will help to advance the discussion of climate change nation-wide and within the university.

On October 29th we commemorated Tufts commitment to the Chicago Climate Exchange. Richard Sandor, President of the Chicago Climate Exchange joined Tufts President Lawrence Bacow, Randall Kroszner, Prof. of Economics (University of Chicago), and Gilbert Metcalf, chair of the Tufts Economics Department for a stimulating discussion on the Exchange and the role of market instruments in solving environmental problems. The high-powered panel was attended by over 150 students, faculty, top administrators, facilities staff members, funders, and guests.

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Making Real Change: Electricity and Water Consumption Down on Medford Campus

Few of the greenhouse gas reductions projects at Tufts could happen without the hard work of the facilities department. It is their attention to technology and the details that move Tufts climate commitment from ideas into action.

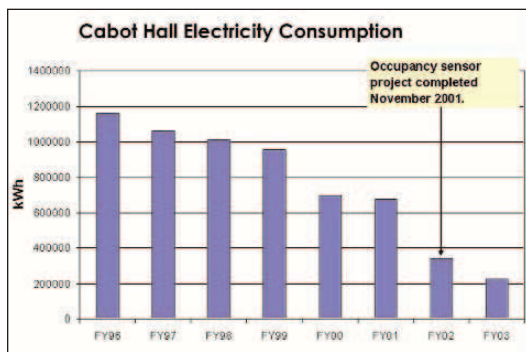
This summer many energy projects were planned and implemented.

In the Science and Technology Center a comprehensive lighting retrofit reduced load enough to eliminate the need for additional air conditioning. This building has also been re-commissioned (re-engineered) thereby developing a plan to tune the building systems for efficiency.

These lighting projects and a pilot steam trap project in the Cousens Gym complex have quick paybacks. If the steam trap project is successful it will be rolled out in the Medford campus - a \$500,000 investment with a 4 to 6 year payback and a reduction of about 5000 metric tons of CO2 over 10 years.

In the Pearson Chemistry building, smart design and attention to details in the existing building made it possible to use the capacity of existing air handlers so that despite a major renovation one rather than two additional air-handlers had to be added and energy consumption could be significantly reduced. This combined with selection of high performance chillers will save \$16,000 a year.

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In Cabot Hall lighting changes have had a dramatic effect on electricity use (see graph.)

These and other efforts have leveled our use of electricity on the Medford campus in 2001, 2002 and 2003. Given the increasing number

of square feet and the ever increasing number of electric equipment, this is an accomplishment we are proud of. (show graph from 1990).

Many major environmental improvements are invisible to most of the campus community. A perfect example for that are the co-benefits from improving our steam systems and retrofitting toilets, showers, and faucets. Thanks to the facility department's efforts, the Medford campus water use has dropped an amazing 25% since 1990.

Without a dedicated operations staff, such improvement opportunities would often go unnoticed.

It is important to keep in mind that while steam traps and high efficiency equipment are not as sexy as solar panels and fancy recycling bins, it is only through these very technical improvements (that require a high level of expertise) that real efficiency gains and emissions cuts can be accomplished.

New Electric Vehicles at

Tufts: RAV 4 in Medford, Golf Cart in Grafton

Tufts Medford campus now sports two new RAV4 electric vehicles. Donated by Toyota, these zero-tailpipe emissions vehicles run entirely on battery power and are being used by mail services and public safety. The cars have been well received by the staff who are curious and excited to drive them.

The mail vehicle is used around the Medford campus and also makes two daily trips to the Boston campus. The car gets driven about 35 miles a day and recharges at night in the Dowling Hall parking garage. Using the RAV4 EV allows mail services to use fewer larger delivery vehicles. This leads to (over)

TCI Calendar

Save Money In Your Home!

A lunch seminar on how to save money in your home and help protect the climate through energy efficiency upgrades

for upcoming dates and more information go to:

www.tufts.edu/tci/homeenergy.html

"A Cure For the Common Car"

Zip Car & Tufts University join their efforts in promoting sustainable mobility

Armed with reduced fees and \$300 security deposit waivers, Tufts faculty, staff and students 21 and over are now getting behind the wheels of Zipcars around Medford, Boston and beyond.

"Zipcars are spread out like ATM machines all over the greater Boston area," says Mark Chase, Director of Planning and Market Development at Zipcar, who received his M.A. in urban and environmental policy from Tufts in 1997. "Zipcar helps solve parking problems in urban areas and provides a way for people to get around without owning a car. We estimate that every Zipcar takes up to ten cars off the road."

In exchange for around-the-clock access to Zipcars in the Boston, New York and Washington, DC metro areas, Tufts members pay a discounted annual fee of \$20 plus hourly or daily charges. The rates and fees cover all

car costs including insurance, maintenance and gas.

Access to the cars is easy: members make a phone or internet reservation, go to one of the cars parked in a designated spot, and use their membership card to get in. Drivers who drive about 10-15 hours a month often find that using Zipcar costs less than the cost of car insurance alone.



Thanks to a partnership among TCI, Toyota, and Zipcar, members can also choose to drive one of two new Toyota RAV4 electric cars. "The Zipcar program,"

explained Sarah Hammond Creighton, TCI project manager, "will help Tufts meet its goal by making fuel-efficient cars available for university and personal business. Ideally, we'd like to get people out of their cars altogether, but this is an acknowledgment that in today's world, we often rely on cars."

For more information or to sign-up, go to www.zipcar.com/tufts or www.tufts.edu/tci

Massachusetts Climate Action Network and TCI: A Seasoned Partnership

Over 200 Climate Activists attended Climate Activist Conference

On November 11, TCI co-organized the 5th climate conference with the Massachusetts Climate Action Network (www.massclimateaction.org). As our collaboration has developed over the years, the conferences have grown in size, breath, and depth.

The six simultaneous break-out sessions guaranteed that the interested newcomer as well as the experienced climate scientist or policy maker could broaden their skills and knowledge about a wide range of climate related topics.

Despite the utter lack of action on the federal level, the over 200 enthusiastic participants proved that climate protection is gaining increased importance and visibility in cities, counties and states all over the country. As Marc Breslow of MCAN put it:

"Many states in the U.S., especially in New England, are developing climate action plans. In addition, hundreds of cities and towns are taking action, and some major businesses are addressing the issue.... To date, 20 cities and towns in Mass. have joined the campaign, the most of any state. MCAN exists because people decided to create climate action groups in their own communities, and then joined together in our network."

Nonwithstanding the enthusiasm to get things done, the conference did not shy away from

spelling out the most recent science on the grim and possibly catastrophic effects of climate change. Barry Rock, from the University of New Hampshire gave a well-rounded presentation on the impacts of climate change on New England (poor air quality, losses to our maple syrup industry, a struggling ski industry, etc.). The predictions are that in the next few decades the climate of Boston will become comparable to the one of either Richmond, VA, or Atlanta, GA. Yet, despite the dire news on many fronts, Michael



John Anderson (NE Aquarium) presenting during the session: 'Climate Change: Strategies for Education'

Northrop from the Rockefeller Brother's Fund gave an inspiring closing keynote, summarizing many of the hopeful initiatives that are happening all over the world.

It was an all around successful day of learning, networking and 'filling the well' by meeting like minded people who are united in their commitment to take action to halt climate change.

New Electric Vehicles cont.

savings in gas, a conservative estimate of \$1000 per year.

Each RAV4 has a nickel metal hydride high voltage battery (288 volt) and a 12 volt regular car battery. Each RAV 4 at Tufts emits about 1.7 tons of CO₂ per year and, as compared to using a regular car, cuts the university's greenhouse gas emissions by about 6 tons each year.

The electric vehicle has a range of about 50-70 miles. We are hoping to install a recharging station on the Grafton campus in the near future so that the RAV4s can be used for trips out to our rural campus.

In other electric vehicle news, the Grafton campus has recently acquired an electric golf cart. It was donated by GEM (Global Electric Motorcars, a Daimler Chrysler company). The golf cart is being used by the facilities department at the School of Veterinary medicine.

Climate Change Briefs

Tropical Oceans Becoming Saltier

New study reports large-scale salinity changes in the oceans. Saltier tropical oceans and fresher ocean waters near the poles are further signs of global warming's impacts on the planet. An acceleration of Earth's global water cycle can potentially affect global precipitation patterns that govern the distribution, severity, and frequency of droughts, floods, and storms. It would exacerbate global warming by rapidly adding more water vapor—itsself a potent, heat-trapping greenhouse gas—to the atmosphere. It could also continue to freshen northern North Atlantic Ocean waters — to a point that could disrupt ocean circulation and trigger further climate changes. The scientists estimated that net evaporation rates over the tropical Atlantic have increased by 5% to 10% over the last four decades.

(Woods Hole Oceanographic Institution, 12-17-03)

Global Warming Kills 150,000 People a Year

Global warming is killing about 150,000 people a year, mostly in deprived and tropical areas, and the toll could rise dramatically if efforts are not made to combat climate change, the World Health Organisation (WHO) warned. The WHO said climate change could cause increases in malaria and other insect-borne diseases, malnutrition and pollution-related diseases, as well as deaths from extreme one-offs such as this summer's heatwave in Europe. Even a rise of a few degrees in average annual temperatures could expose millions more people to the threat from malaria. Hotter and wetter conditions are also likely to increase the spread of diarrhoeal disease, which is particularly dangerous to children. Countries which are heavily dependent on a predictable monsoon season for the cultivation of rice crops - such as India, Bangladesh and Burma - are more likely to suffer increases in malnutrition if the changes affect the reliability of the rainy season.

(Independent (UK) 12-13-03)

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