

It's been three years since *Vanity Fair* launched its first "green issue," and we thought it was high time for *Pulse* to do the same. What we didn't realize, however, was how much there was to report on in the health sciences. Our two-page issue quickly turned into four, with inspiring stories left over. Though Madonna wasn't available for our cover shot, we were able to catch President Young on Earth Day. And what he had to say about the University's commitment to sustainability (see article below) was impressive: from announcing the U's new co-generation facility will eliminate 68,000 tons of carbon dioxide annually, to signing the American College and University Presidents Climate Commitment, to granting permanent status to the newly launched Office of Sustainability, halfway through its pilot year. These significant institutional commitments notwithstanding, when it comes to sustainability, the president said he feels like he's always running to catch up, saying, "Wait, wait, I'm your leader." He's referring to countless initiatives throughout campus started by dedicated and passionate students, employees, and faculty members. In our first green issue of *Pulse*, we've highlighted only a few of those efforts in the health sciences . . . and a sense, we hope, of the building momentum.

*Pulse* is committed to ongoing coverage of sustainability initiatives in the health sciences. We'd like to hear about any earth-friendly practices you or your colleagues have initiated. E-mail us at [pulse@hsc.utah.edu](mailto:pulse@hsc.utah.edu).



## More Than a Promise U Commits to Sustainability

KRISTAN JACOBSEN

President Michael Young celebrated this year's Earth Day by making a clear commitment to reduce or offset the University's greenhouse gases, the main contributing factor to global warming. Cheered on by a crowd of students, faculty, administrators, and employees, the president signed the American College and University Presidents Climate Commitment, which provides a framework for America's colleges and universities to go climate neutral. He also cut the ribbon for the U's new co-generation high temperature water plant, which will eliminate more than 68,000 tons of carbon dioxide that would otherwise be released into the atmosphere annually.

"I am thrilled to announce these two significant milestones in the University's continuing effort to become one of the most environmentally conscientious cam-

pus in the country," said President Young. "I can say, with assurance, this is just the beginning of our commitment to making this campus a model of sustainability."

While some have been anxious for the U to join more than 500 U.S. colleges and universities that had already signed the Climate Commitment, Young attributed any delay to his "strong passion for only signing things that we not only want to do but are prepared to do." The U's \$18 million investment in the co-generation facility was one example of Young's serious commitment to the program. His announcement that the Office of Sustainability, which was created as a pilot program last October, will become a permanent fixture was another.

Throughout his remarks, Young emphasized the University's unique opportunity to incorporate sustainability into its core educational and research missions.

"We hope that through our educational process we will not only cultivate a passion to live in a sustainable way, but an understanding of how to do it."

▲ On Earth Day, President Michael Young introduced the U's new cogeneration facility, which will provide hot water and electricity from a single generating plant. The state-of-the-art system uses a turbine to spin the generator, supplying the campus with electricity and heat. It then captures the excess gas, instead of sending it into the atmosphere, and uses it to heat water that runs through pipes to keep buildings on main campus warm. The emission rate of the plant's wind turbine is one of the lowest in the country. "In our continual move toward a more sustainable campus, this plant will provide all high-temperature water needs for the lower half of campus," said President Young. "At the same time, it recaptures enough heat to produce 5 percent to 10 percent of our electricity needs."

► Want to find out more? Visit the Office of Sustainability's Web site at [www.sustainability.utah.edu](http://www.sustainability.utah.edu) or contact Jen Colby at [JColby@sustainability.utah.edu](mailto:JColby@sustainability.utah.edu) or 585-9352.

## Office of Sustainability Building a Greener U

When it comes to the green campus movement, one of the telltale signs that your institution has arrived, is the presence of an Office of Sustainability (OS).

The catalyst for creating the U's sustainability office was the student



KRISTAN JACOBSEN

Craig Forster  
Interim Director, Office of Sustainability

group SEED (Sustainable Environments and Ecological Designs). The administration launched the office as a pilot project this past October. It quickly became apparent that a serious commitment to sustainabil-

ity on campus would require a central place to coordinate the many different efforts. On Earth Day, President Young announced that the office would have permanent status and secure funding.

"The Office of Sustainability will continue to facilitate communication and initiate new policies on campus, and engage the broader Utah community in a long-term dialog about the three pillars of sustainability: environmental stewardship, economic security and social responsibility," says Craig Forster, the office's interim director.

Forster says the health sciences play a critical role in sustainability efforts by providing a healthy, healing environment. But a healthcare environment also poses unique challenges. To better address those needs, Forster recommends that a new position be created with the OS to specifically focus on sustainability for the health sciences.

## Editorial

# Turning Recycling Resolutions into Habits



CAROL WERNER, PH.D., *Professor, Department of Psychology*

Each year around Earth Day, Americans resolve to be a little greener. We promise to recycle a little more, drive a little less, and generally try to do a better job of protecting our biosphere. Ideally, these short-term commitments will become genuine long-term changes—habitual behaviors that make it easy for us to maintain our regular daily routines while reducing our impact on the earth's ecosystems. Habits are great because they are essentially mindless and automatic. Habitual recyclers don't need to think about recycling—they just do it. If we recycle automatically, our minds are free to focus on other things. But how do we get from sincere intentions to habits? Here's some advice, based on research here at the U and around the country:

- 1 Create a physical environment that makes recycling easy. It doesn't take a lot, but an organized and conveniently located system can make all the difference in maintaining your commitment to recycle. Put up reminder signs, too, and change the signs when you find yourself ignoring them.
- 2 Create a "strong" attitude. Find reasons that make you determined to recycle. Your reasons don't need to be sophisticated—but they do need to be persuasive to you. Make sure your attitude and your reasons come to mind easily. If you don't remember *why* you want to recycle, it is hard to get yourself to recycle.
- 3 Make recycling interesting and fun. This may sound strange, but our research shows that people who make recycling habitual often begin by making recycling a positive experience. Some people involve friends and family members and marvel at how much their kids enjoy recycling. Some people are proud to see how their recyclables accumulate while their garbage is reduced. Others are engaged by intellectual aspects, such as learning more about the waste stream, or how recycled goods are transformed into new products. Eventually, the fun and curiosity will wane, but in the meantime, they keep you going and help create automatic and mindless recycling that we call a habit.
- 4 My final advice is not to try to change too many behaviors at one time. Once you have mastered recycling, you can set your mind on "buying recycled" and lobbying your department to "buy recycled." And when you're ready to begin using TRAX, send me an e-mail ([carol.werner@psych.utah.edu](mailto:carol.werner@psych.utah.edu)) and we can get you started on that new habit!

## Recycling Cartridges and Cell Phones Yields Praise and Profit

When **Rhonda McMillan** goes shopping for office supplies, it sometimes doesn't cost her a dime. That's because McMillan, the coordinator for the University Health Care Transfer Center, started a program to recycle the office's toner cartridges (and personal cell phones) and cash in on the \$3 rebate on each one at Office Max. Since the fall, her office has saved \$150 to \$200 every couple of months on office supplies.

"Not only were we able to cut costs from our budget, but we've had the opportunity to improve morale and our work environment with extra purchases without spending any money," says supervisor **Seari Hulse**, R.N., clinical nurse coordinator. Recognition items for staff, like flash drives, are purchased for little or no cost to the department. The savings also has allowed the office to purchase small conveniences, such as laminating sheets, air dusters, and a new paper cutter.

"We encourage other departments to participate, by either donating to the Transfer Center's project or building their own," says Hulse. "We're happy to help anyone get started."

McMillan has presented at several employee forums and hopes it motivates others to do the same. To find out more information about the program, she welcomes your e-mails at [rhonda.mc-millan@hsc.utah.edu](mailto:rhonda.mc-millan@hsc.utah.edu). You can also drop off a used cartridge or cell phone in the Transfer Center's drop box, located on the first floor admitting office in University Hospital.



STEVEN LEITCH

# recy at the h

Writing about all the initiatives motivate paper and printing p We're happy to anno to a 100 percent rec 3 fully grown trees, 1 million BTU of e solid waste, and 20 house gases. So a pouring over th don't forget to recycl

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**Did you know?** It takes up to three quarts of oil to produce a single printer cartridge, yet only about 5 percent of empty printer cartridges are being recycled. The rest end up in landfills, leaking ink, and taking up space for generations before the plastic decomposes. When cell phones are tossed, they can become a carcinogenic hazard to our environment. If they're recycled, the precious metals, flame retardant plastics, glass, and other materials can be reused.

## Wind Power

# Biochem Prof Leads Campaign to Donate Renewable Energy

As it turns out, the answer really might be blowing in the wind.

The question? How to eliminate the hundreds of thousands of tons of CO<sub>2</sub> and mercury generated by the University of Utah's electricity usage from escaping into the atmosphere.

For biochemistry professor **Chris Hill**, D. Phil, the solution is simple: ensure that the school's share of electricity is made from wind turbines, a renewable energy source that has essentially no environmental impact. According to the U's Office of Sustainability, roughly 55 percent of mercury and CO<sub>2</sub> emissions associated with the U come from coal-generated electricity, a primary contributor to global warming.

To reduce the U's contribution to global warming and pollution, Hill initiated "Campaigns for Sustainable Energy," a program that encourages students, faculty, and staff to donate money to help the University purchase wind-generated electricity at a cost that's only 5 percent above the standard rate and is tax-deductible.

Currently, through a dollar-per-student donation each semester from the Associated Students of the University of Utah (ASUU) and contributions from faculty, staff, and others, 15 percent of the U's electricity comes from wind turbines. But Hill has a more ambitious vision.

"The U's share of electricity could be generated entirely from wind turbines if, on average, students donated \$20 a year and faculty and staff gave \$30 a year," Hill said. "A \$30 yearly donation to the U's program also effectively would produce 100 percent of the electricity for an average U.S. household from wind turbines."

To start a climate neutral campaign in your department or to donate wind power, visit <http://windpower.utah.edu>.

The U.S. energy department says wind turbines could generate more electricity than the United States now consumes, eliminating millions of tons of carbon dioxide (CO<sub>2</sub>) and mercury emissions poured into the nation's air by power plants that burn coal to generate electricity.



STEVEN LEITCH

## Hospital Leads Campus In Recycling

In the past two years, University Hospital has taken the clear lead when it comes to recycling on campus. Environmental Services collects several kinds of paper, cardboard, cans, plastic, rag linen, and batteries from more than 153 collection sites and has expanded to include Huntsman Cancer Hospital, the University of Utah Orthopaedic Center, and the University Neuropsychiatric Institute. To support these efforts, Environmental Services also has created a recycling committee and launched the first annual Green Fair last January. “Staff and employees have made it very clear that recycling is a priority, and the ES staff has worked very hard to implement and maintain these important programs,” said **Rick Lee**, director of Support Services. “We have no shortage of ideas of where to go next. It’s just a matter of having enough resources to expand.” For more information on recycling programs or to become a member of the recycling committee, contact Rick Lee at [Rick.Lee@hsc.utah.edu](mailto:Rick.Lee@hsc.utah.edu) or 581-2742.

### University Hospitals & Clinics Recycling Data

While recycling brings in additional revenues, “where we really make money is in reducing the waste sent to the landfill,” says Support Services Director Rick Lee. “Every pound we send to recycling saves 5 cents in waste disposal.” In 2008, the Hospitals & Clinics will save nearly \$70,000 by reducing the amount of waste sent to the landfill.

Materials Recycled	FY 08 Annualized
Paper, mixed	90,280 lbs.
Cardboard	203,340 lbs.
Document Paper	753,200 lbs.
Aluminum cans	10,220 lbs.
Plastic	15,330 lbs.
Rag linen	266,000 lbs.
Newspaper, junk mail, mag.	53,000 lbs.
Batteries	640 lbs

## Recyclers

These inspiring recycling efforts have led us to examine the process we use for *Pulse*. It turns out that by switching to recycled paper, we saved 563 gallons of water, 123 pounds of energy, 123 pounds of greenhouse gas. After you’ve finished reading the articles, please drop it in the recycling bin.

Based on research by the Defense and other Paper Task Force.



KRISTAN JACOBSEN

**No recycle pickup at your office?** Call the hospital’s Environmental Services (581-2742) and request permission to bring your recycle materials to the **green recycle dumpster** located on the West Side of the School of Medicine near the old Receiving Dock. You must first get permission and then be a responsible recycler. One greasy pizza box will contaminate the entire load, which then has to be sent to the landfill instead of being recycled. What does it accept? Clean mixed paper, such as office pack, newspaper and magazines. (No paper from eating areas such as napkins, food cartons or paper cups.) You can also drop off aluminum cans (no steel) and plastic beverage bottles, but they should be in separate bags. If you’re lucky, and a hospital courier makes regular stops at your office or clinic, you can request (nicely, of course), that they take your carefully bagged recycling with them.

## Recycling or Biking, Hospital Operator Pedals the Extra Mile

Some people take home stress from their job. **Van Hoover**, a hospital telephone operator, takes home recycling.

Hoover, an environmental studies major, noticed that the hassle of walking to a different department to shred and recycle paper was deterring his office mates from doing it. He also noticed that plenty of aluminum cans, cardboard and plastics were ending up in the office garbage cans. So Hoover set up a bin in his department labeled with all the recyclables allowed; once a week he carts it all home dumping it into his own curbside recycling can.

“It really is a change that doesn’t take that much initiative to instigate,” says Hoover.

The more attention Hoover tactfully brought to the ease of recycling, the more the 25 people in his office started contributing to the bin. He admits a little “social pressure” can help in building awareness. “Recycling doesn’t have to be a big commitment, it doesn’t take much time,” says Hoover. “People just need a little encouragement to do it.”

During the week, Hoover pedals to his job in Research Park from Midvale, along the Jordan Parkway, not just to save money, but to avoid polluting the air. “Plus I love starting my day—a day I’ll be sitting for some 8 hours—with 25-30 miles of pedaling already accomplished.” After a full day of work and classes, Hoover—and his bike—take TRAX home. On most Fridays, however, Hoover drives to work and loads the back of his car up with office recycling. On a good Friday, he can recruit a co-worker to cart it home, and squeeze in an extra day of pedaling.

So the next time you call the hospital operator and hear “University Hospital, this is Van,” ask him how the cycling—and recycling—are going.

## Going Green

# Community Clinics’ Volunteers Head to Recycling Centers

A few months ago the Community Clinics began a “Going Green” program to recycle plastics, aluminum, and paper. Because the freestanding clinics don’t have enough volume to warrant a bailer or compactor (the method the large trash haulers prefer for pick up), the employees have diligently volunteered to take the products to the recycling centers on their own time.

“There is so much dedication and enthusiasm about the Going Green program,” says Westridge Center Manager **Shawn Matheson**. “We have no shortage of people willing to take the plastic and aluminum to the recycling center.” In 2008 Westridge Clinic plans on recycling about 1,000 pounds of plastic, 500 pounds of cardboard and paper, and 100 pounds of aluminum.

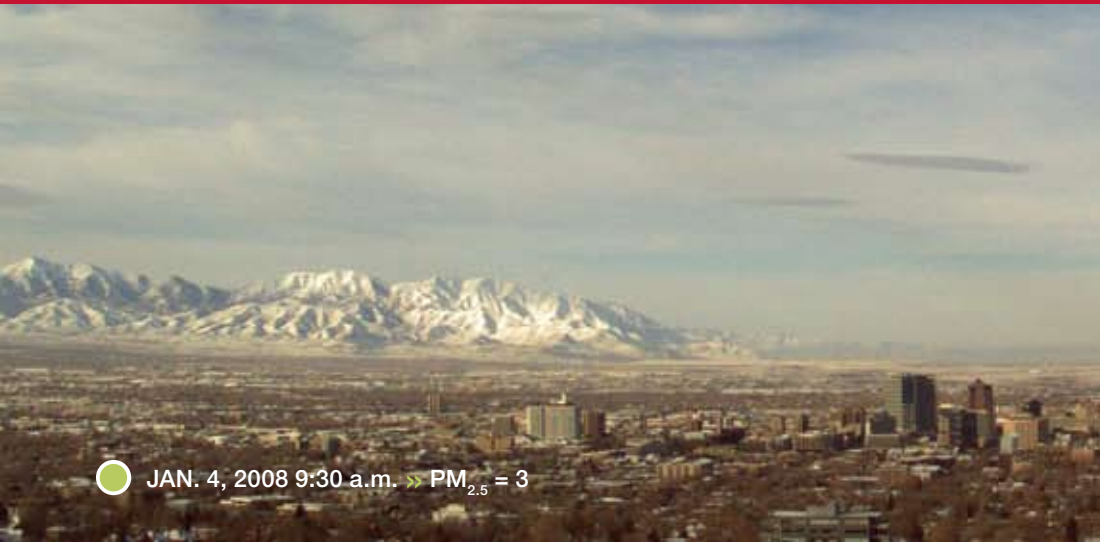
“I think we all feel a sense of moral obligation and duty to live responsibly and to be good individual citizens,” says Matheson, “And I know I probably speak for many that we also feel a great sense of pride and ownership to know our employer also engages us to be good corporate citizens.”

The other Community Clinics—Greenwood (7400 South State), Redwood (1500 West 2100 South) Redstone (Park City) and Stansbury (Tooele)—also are launching Going Green Programs. For more information about recycling at any of these clinics, contact Shawn Matheson at [shawn.matheson@hsc.utah.edu](mailto:shawn.matheson@hsc.utah.edu).

Brandy Snow, medical records specialist at Westridge Clinic, helps take items to the recycling center.



SHAWN MATHESON



JAN. 4, 2008 9:30 a.m. >> PM<sub>2.5</sub> = 3



JAN. 3, 2008 9:30 a.m. >> PM<sub>2.5</sub> = 44



JAN. 24, 2008 9:30 a.m. >> PM<sub>2.5</sub> = 64

DATA UTAH DEPARTMENT OF AIR QUALITY  
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**What Color is the Air Today?** Reliable current and forecasted air pollution levels throughout Utah are available from the Utah Division of Air Quality at [www.airquality.utah.gov](http://www.airquality.utah.gov) and also can be obtained via local radio, television and newspapers. Several organizations are currently engaged in advocating for more protective State and Federal air pollution standards and legislation, including the American Lung Association ([www.lungusa.org](http://www.lungusa.org)), the American Heart Association ([www.americanheart.org](http://www.americanheart.org)), Physicians for Social Responsibility ([www.psr.org](http://www.psr.org)) and Utah Physicians for a Healthy Environment ([www.uphe.org](http://www.uphe.org)).

## Editorial

# Air Pollution & Health

## A Critical Issue for the Utah Medical Community

MICHELLE HOFMAN, M.D., *Adjunct Instructor, U Department of Pediatrics and* CHARLES LANGELIER, M.D./PH.D *student at the University of Utah*

From our lofty vantage point at the University Health Sciences Center it takes just a quick glance out the window to realize when the valley's air quality is unhealthy. This serious problem now stretches well beyond the Wasatch Front to a number of metropolitan areas that routinely fail to meet national air-quality standards.

As members of the University's health sciences community, it's our overall goal to better the health and well-being of the populations we serve. Yet despite strong scientific evidence demonstrating a clear link between air pollution and disease, many medical professionals are largely unaware that Utah's poor air quality is responsible for significant health problems. Providing high quality patient care and protecting the health of our patients demands an awareness and understanding of local air-quality problems.

Utah's two most significant air pollutants are fine particulate matter (PM<sub>2.5</sub>), which is highest during winter temperature inversions, and ozone, which reaches unhealthy level most frequently during the summer.

From a public-health standpoint, fine particulate matter is one of the most significant air pollutants in our region and worldwide. Short- and long-term exposure to particle pollution, such as smoking, has been linked to death from cardiovascular disease, including strokes and heart attacks. Extensive research also shows significant impacts on the pulmonary system, with repeated studies demonstrating increased emergency room visits for patients suffering from acute respiratory ailments, increased hospitalization for asthma among children, and increased risk of dying from lung cancer.

Higher temperatures promote ozone formation, the major constituent of summertime smog, and record temperatures in Utah this past summer resulted in an unprecedented number of days during which Wasatch Front communities experienced unhealthy levels of ozone air pollution. New research has confirmed that ozone exposure increases the risk of premature death, and well-established studies have found the acute effects of exposure include exacerbation of asthma, shortness of breath, chest pain, and wheezing. Exposure to both fine particle pollution and ozone increases susceptibility to respiratory infections.

The combined impact of air pollution on public health in both Utah and throughout the world is significant. Studies estimate the annual nationwide death toll attributed to air pollution exceeds tens of thousands, and considerable evidence now demonstrates that there exists no safe level of exposure for either PM<sub>2.5</sub> or ozone. Identifying the most sensitive individuals and developing optimal intervention strategies is an ongoing scientific and clinical challenge.

There are no easy solutions to Utah's air-quality problems. But as health professionals we must advocate for the health of Utah's citizens. Scientists must continue to elucidate mechanisms of pathology. Health-care providers must educate their patients. We need to be available to partner with community coalitions and educate policy-makers. Finally, we must be role models in the community and adopt lifestyles that improve air quality and encourage others to do the same.

*Nationwide, the combustion of coal for electricity generation is the single greatest source of air pollution. In Utah, the primary sources of air pollution are automobiles, power plants, and industrial sources such as refineries.*

## Public Transportation

### All Aboard: FrontRunner Train is Newest Reason to Ride Green

The new UTA FrontRunner TRAX train is in full zoom, traveling up to 79 mph between eight stations in one hour. The FrontRunner is expected to transport some 12,600 riders daily by 2025, including thousands of University employees and students from as far north as Ogden to downtown. (Nearly one-third of the U's employee/student population live in the Davis County area.)

The FrontRunner is just the latest in a series of developments that has made the campus more accessible via public transportation. Indeed, more than one-third of health sciences employees already take some sort of mass transit to work . . . and, thanks to the Ed Pass, it's all free.

The earth benefits, but so does the U's environment. It's estimated that the average trip of the U's 35,000 daily commuters is 20 miles round trip, which requires roughly a gallon of gas. Each gallon of gas emits about a pound of pollution, so the 13,000 to

14,000 people who take the bus or TRAX to campus each day are eliminating 13,000 to 14,000 pounds of pollution each day. According to **Alma Allred**, director, Commuter Services, if everybody on campus took

the bus or TRAX one day a month, it would reduce the number of cars on campus by 1,000 a day. "You would begin to see a big difference on campus," says Allred, citing cleaner air, easier parking, and less congestion.

Using public transportation

also saves student and employee commuters a bunch of money. By issuing free transit passes (which retail from \$700 to \$1,700 annually), the U hopes to make alternate forms of transportation a viable and convenient choice. "We have no intention of penalizing those who can't use mass transit," explains Allred. "But we do want to encourage use of mass transit by making it convenient and free for those who can make it work with their lives."

**How Much Money Could You Save?**  
To estimate how much money you'd save by commuting via public transportation, use the UTA calculator at [www.utarideshare.com/calculators/calculators.htm](http://www.utarideshare.com/calculators/calculators.htm)



Chantelle Turner, public relations specialist in the public affairs office, estimates \$10 a day in gas savings by using her Ed Pass to take the express bus from American Fork to Research Park. This doesn't include savings on car insurance and maintenance. Turner uses the hour each way to catch a nap, read, or pull out her laptop to work. "Most of these buses have WiFi now—I've seen people watching movies on their computers or surfing the internet," she says. On days she drives to work, Turner says she can't beat the bus to work because of the carpool lane advantage.

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