



# Conservation News

Volume 3, Number 2

*Conservation News is a quarterly publication of EPA's Facilities Management and Services Division (FMSD) Conservation Information Clearinghouse. FMSD established the Clearinghouse as a focal point for collecting and disseminating information about pollution prevention and energy and water conservation to serve all EPA facilities. The newsletter is intended to educate, inform, and help EPA staff involved in these efforts at EPA-owned or -leased facilities. We welcome your comments and suggestions. To receive additional copies of this newsletter, submit information for inclusion, or learn more, call the Clearinghouse Hotline at (202) 260-9803 or e-mail "p2group@epamail.epa.gov". You can also access the newsletter through the Internet at "http://www.epa.gov/consrv-news." f*



## A Note From the Agency Conservation Coordinator

### EARTH DAY EVERY DAY

by Phil Wirdzek, FMSD

Earth Day has gained a great deal of significance for the Agency. The Office of Administration (OA) took this opportunity to capitalize on the day to launch several initiatives that demonstrate EPA's commitment to utilizing its own mission in its facilities. These initiatives included pollution prevention awareness activities here at Headquarters, a solicitation for laboratory HVAC plant overhaul that will evaluate pollution prevention in the technical selection process, and an outreach program to enable EPA to compare its pollution prevention program with other private/public organizations. This issue of *Conservation News* highlights the details of many of these activities.

Part of the Earth Day celebration at Headquarters focused on awareness. OA's Pollution Prevention Steering Committee, or P2 committee, presented and distributed information on the Agency's internal pollution prevention program at Headquarters. Available materials included information on environmental laboratory management (implemented by the Safety, Health, and Environmental Management Division), waste reduction, the Paperless Office Campaign, the energy and water conservation program (implemented by the Facilities Management and Services Division), and affirmative procurement (implemented by the Office of Acquisition Management).

The P2 committee also conducted a lunch hour presentation in the Agency's auditorium where employees learned about the Agency's internal pollution prevention program. In the presentation, the committee announced plans for its pollution prevention program benchmarking initiative that EPA hopes to gauge its successes in preventing pollution at its facilities. The P2 committee, with the assistance of the Office of Pollution, Pesticides & Toxic Substances, is developing this program to evaluate the committee's activities and learn from organizations who have had to operate under federal requirements to prevent pollution. This benchmarking activity may provide the greatest opportunity to determine its success or formulate further plans for action.

With the Earth Day event, FMSD kicked off EPA's partnership with the Department of Energy (DOE) where EPA was one of a select group of federal agencies recognized by DOE for its energy reduction program. EPA is participating in launching DOE's 5-year campaign entitled "You Have the Power." Through this campaign, employees and their work will be recognized for supporting the Agency's energy program and the national goals of conservation and environmental protection.

Finally, FMSD highlighted solar energy innovations that are underway at EPA facilities in Las Vegas, NV, and Ann Arbor, MI. The division promoted conservation activities of the National Vehicle Fuel Emissions Laboratory (NVFEL) in Ann Arbor which saved enough money from its efforts to purchase \$45,000 worth of laboratory equipment. FMSD promoted NVFEL in its efforts to implement a new daylighting system that demonstrates renewable energy technology. FMSD also promoted a partnership it has created with NVFEL, the Office of

Acquisition Management (Cincinnati), and DOE's National Renewable Energy Laboratory to use a creative procurement program for energy efficient capital improvements in the NVFEL facility. All taken together, I believe these activities prove the continued dedication of EPA employees and management to the environmental goals of the Agency, and the projects illustrate a growing commitment throughout EPA's facility operations to a culture of environmental stewardship. ♣



## Spotlight on Earth Day

### EPA HEADQUARTERS PROMOTES AWARENESS ON EARTH DAY

On April 22, communities, schools, and government agencies across the nation celebrated Earth Day 1997 with events to promote awareness in protecting human health and the environment. EPA's Office of Administration (OA) participated in the festivities by sharing the pollution prevention efforts occurring at its facilities and laboratories. Events were held at EPA Headquarters in the commercial mall area and in the outdoor park.

OA arranged displays on the Agency's internal pollution prevention program, highlighting energy and water conservation, paper use reduction and recycling, and chemical management, and showed how these programs will be implemented at all EPA facilities. Agency facilities, new and existing, serve as models for a healthy workplace with minimal environmental impacts. The Earth Day



celebration communicated the message that EPA facilities are leading by example by incorporating innovative technologies and the principles of sustainable development in their building designs. Examples of this forward

thinking approach are evidenced by the Atlanta Federal Center, the Philadelphia Regional Office, and the laboratories in Athens, GA, Fort Meade, MD, Kansas City, KS, and the building designs for the new consolidated Research Triangle Park (RTP) facility. EPA's New Headquarters Project was on hand at the celebration to showcase a model of the new headquarters — the Ronald Reagan Building (RRB) — and to demonstrate energy efficient technologies being implemented in the design of the building. For more information on the RRB, visit the Mall Room 3213, or call (202) 260-3581 or 260-INFO.

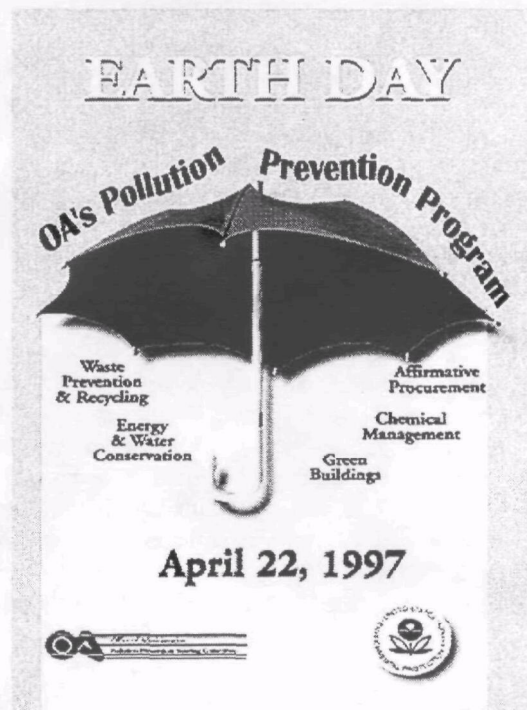
In addition to the RRB exhibition, the Earth Day displays included posters, information packets, and technology demonstrations. Computer demonstrations displayed World

Wide Web pages, pollution prevention planning guidance, and energy savings calculations. Several of the Headquarters' alternatively fueled vehicles were showcased in the outdoor park area. And, throughout the day, attendees took guided tours to the roof to view the solar hot water panels that provide hot potable water for the West Tower.



*Patricia Plympton of NREL-DOE describes solar hot water system to HQ employees.*

FMSD displayed several posters to publicize current and planned projects for energy conservation. One poster described the energy savings performance contract currently out for bid to upgrade EPA's National Vehicle Fuel Emissions Laboratory in Ann Arbor, MI. Other posters summarized renewable energy projects, energy-efficient dehumidification projects, and existing or proposed advanced controls projects at EPA-owned facilities. ♣





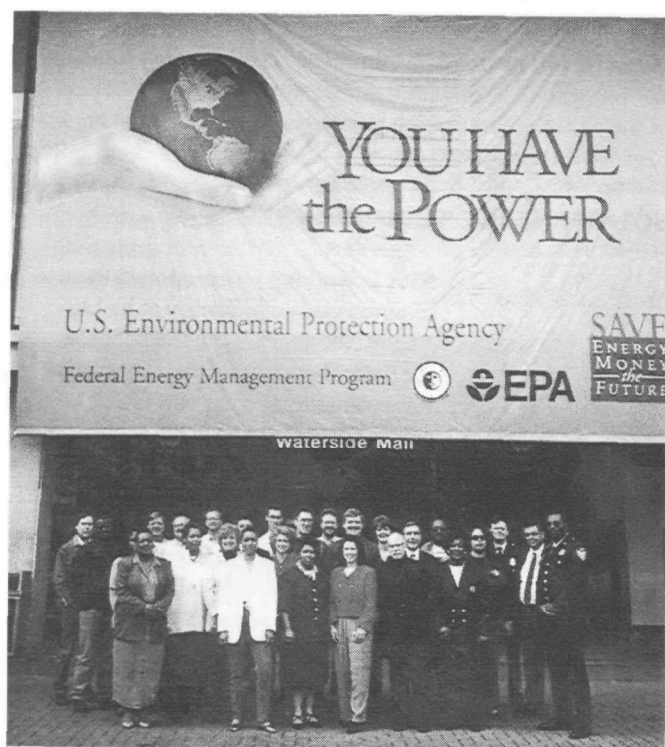
## Conservation News Online Gets a Facelift

### CONSERVATION NEWS ONLINE

The Internet version of the *Conservation News* newsletter has a whole new look. Visitors to the newsletter's Web site are welcomed

by a colorful front page that briefly highlights the articles in the current issue. Readers can then choose which articles they would like to read with just a point and a click. In addition, all back issues are conveniently archived in one location that can be easily accessed from the front page. We invite you check it out. Just point your web browser to "<http://www.epa.gov/consrv-news>."

## FEDERAL CAMPAIGN FOCUSES ON ENERGY EFFICIENCY



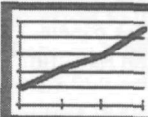
*Special thanks to all the participants in EPA HQ's Earth Day event.*

The Department of Energy's Federal Energy Management Program (FEMP) recently initiated a five-year federal campaign entitled "You Have the Power." This campaign, which is being initiated with partnerships between 10 federal agencies, is aimed at increasing the awareness and visibility of energy efficient practices and products. The campaign will assist federal energy managers in increasing awareness about pollution prevention and energy-efficient practices and products. It features compelling artwork, posters and banners, and promotion of "energy

champions"—federal employees who are doing extraordinary things to save energy and money. Another facet of the campaign involves promoting partnerships with selected energy-related organizations in the private sector. The campaign will help instill pollution prevention and energy efficiency as basic values among all federal workers.

EPA rolled out its participation in the "You Have the Power" campaign on Earth Day by honoring seven EPA individuals for their dedicated efforts to reduce energy consumption or promote energy awareness. At Headquarters, EPA also hung two 20' x 30' banners and distributed handouts with energy savings tips and information. All of the materials will be rotated to EPA's facilities to promote environmental awareness within the Agency as well as facilities' communities.

For more information, visit the campaign's Internet site at "<http://www.eren.doe.gov/femp/yhttp/>."



## Goals and Milestones

### NEW NVFEL BUILDING BALANCES ENERGY EFFICIENCY WITH PRACTICAL NEEDS

by Doris Ellis, FMSD



*Shown from left to right: Office of Mobile Sources Deputy Dir. Chris Grundler, Office of Air and Radiation Ass't Admin. Mary Nichols, Office of Mobile Sources Dir. Margo Oge, Office of Air and Radiation Deputy Ass't Admin. Richard D. Wilson, and Ann Arbor Mayor Ingrid B. Sheldon (front right).*

The ground-breaking ceremony for NVFEL's new energy-efficient office building was held on February 25, 1997. EPA used an integrated team approach in developing the solicitation for offers (SFO) to ensure that energy efficiency and pollution prevention criteria were incorporated into the building design. The targeted completion date for the new building is March or April 1998. FMSD's Doris Ellis and Phil Wirdzek and NVFEL's Jeffra Rockwell were successful in negotiating an improved energy-efficient building with the cooperation of the General Services Administration (GSA), the lessor's team, and the Solar Energy Council.

The most challenging task of designing this new building was balancing energy efficiency with the need for additional lighting and heating due to the severe weather conditions in Michigan, and the lighting and temperature requirements for special equipment used at the facility. The building orientation on the site will maximize or minimize, as appropriate, the light and heat sources to help resolve these challenges.

NVFEL's Dick Lawrence, who recently joined this effort, is taking an active role in selecting beneficial landscaping and argon gas-filled windows, which will add warmth to the building. Other energy-efficient components of the building include the color and tint of the glass (eliminating the need for mini-blinds and the subsequent use of interior lights when blinds are closed), overhangs for shading, thermal walls, roof insulation, fluorescent T-8 lamps, electronic ballasts, and daylighting and occupancy sensors. The building's interior was designed to provide more natural light in the open workstations by adding skylights, substituting some of the solid partitions with glass panels, and adding glass at the top of partitions for sound reduction and increased daylight. ✍

### ESPC REQUEST FOR PROPOSAL

EPA announced its first request for proposals (RFP) for an Energy Savings Performance Contract (ESPC) for NVFEL in Ann Arbor, MI. EPA published its RFP in the April 8, 1997, *Commerce Business Daily* through a team effort involving NVFEL's facility management and staff; EPA's contract management staff from the Office of Acquisition in Cincinnati; EPA's Architecture, Engineering and Real Estate Branch and its technical support contractor; and DOE's National Renewable Energy Laboratory.

As an energy showcase facility, the Agency is pursuing a unique contractual relationship with an energy savings contractor in one of its own facilities to illustrate the interwoven nature of environmental protection and energy use. Because nearly 70 vendors had requested the RFP before it was advertised, the team is anticipating several strong and creative proposals for this facility. The next issue of the *Conservation News* will include a detailed explanation of this contracting process, provide an update on the NVFEL RFP, and describe EPA's plans to use the contract in other facilities. ✍

### POLLUTION PREVENTION PROGRAM UPDATE

OA recently finalized and distributed the first of several series of pamphlets on pollution prevention opportunities. The topics covered were battery management, painting operations, and alternatively fueled vehicles. The pamphlets presented how EPA facilities can implement projects on these topics. The pamphlets were sent to pollution prevention contacts at each EPA facility. The next series —

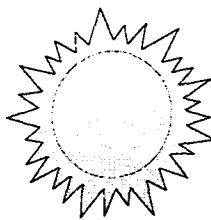
chemical management, solvents, and environmentally preferable cleaning solutions — will be mailed soon.

In addition to the pamphlets, OA is beginning to benchmark EPA facilities in select areas of pollution prevention. It is seeking partners from the private sector to participate in this effort. OA's goal is to learn and share ideas from other similar facilities about pollution prevention successes and opportunities.

OA would like private sector partners to share their successes and efforts in incorporating pollution prevention into their facility, laboratory, and administrative operations. OA envisions producing a final report that describes its analysis of ways in which EPA can operate more effectively and efficiently while fully incorporating pollution prevention into all areas of operation.

More information on this process and how you can be involved will be in future editions of *Conservation News*. For immediate information on benchmarking or for copies of the pollution prevention pamphlets, send an e-mail to [p2group@epamail.epa.gov](mailto:p2group@epamail.epa.gov). ✍

### SOLAR ENERGY THROUGH CSTRR



EPA is working to incorporate the use of purchased solar energy at its Las Vegas laboratory. The Corporation for Solar Technology and Alternative Renewable Resources (CSTRR), a public corporation charged with developing and distributing solar and renewable energy, is driving this

initiative by proposing to build in the region a power plant based on solar energy. CSTRR's initial research has shown that the State of Nevada offers outstanding solar energy resources that could provide a stage for central solar electric energy plants. This move toward solar technologies would conserve energy from traditional sources and reduce greenhouse gas emissions, as well as use a freely available and renewable resource.

EPA has signed a letter of interest—a nonbinding agreement—for the Las Vegas facility to work with CSTRR and the Department of Energy to analyze a solar power purchase. CSTRR, with broad support from the Federal Energy Management Program, has continued to secure other letters of interest, including the National Park Service, U.S. Army and Air Force installations, and the City of Santa Monica. Currently, CSTRR has a commitment for a total of 72 megawatts (MW) of power, including a 10 MW secured commitment from the Nevada Test Site. With this interest in solar energy, CSTRR Chairman, Senator Richard Bryan, is confident that EPA will see other solar power projects developed within a short time. ✍

## ACTIVE DAYLIGHTING SYSTEM AT NVFEL

by Hadi Janbakhsh, FMSD

The National Vehicle and Fuel Emissions Laboratory in Ann Arbor recently completed the installation of a sun-tracking daylighting system that replaced the existing standard skylight system. Prior to installation of this new system, NVFEL could not use its 10,000-square foot, high-bay testing area because the very sensitive test procedures are tremendously affected by temperature change. The conventional skylight system allowed direct sunlight to enter the test area and caused "hot spots" on the test vehicles. The daylighting system tracks the sun's path and diffuses natural light, preventing hot spots and allowing the area to be usable again.

The daylighting system is composed of individual units, each with a photovoltaic solar-powered mirror assembly attached to the existing skylights. The mirrors align horizontally with the sun via an infrared control unit and redirect sunlight to the testing area throughout the day at low angles. In addition to directing light, the mirrors also provide shade when the sun is high, preventing excess heat. The mirror units, with nine reflective aluminum panels, are mounted on aluminum tubing set on the skylight's frame of extruded aluminum alloy. The skylight dome is a custom-designed, high-impact lens.



*Hadi Janbakhsh and Steve Dorer shown with the active daylighting system at NVFEL.*

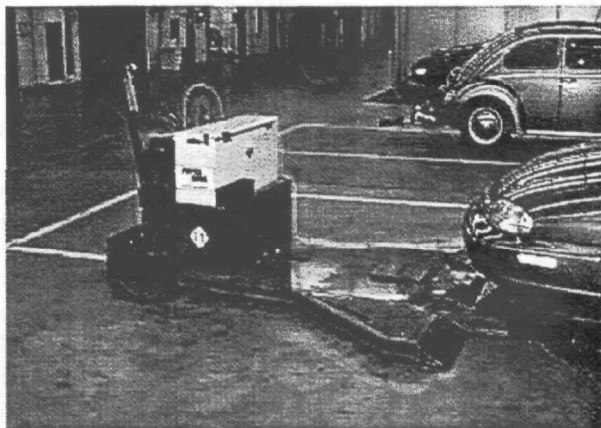
As an added feature, an automatic light control system turns lights off in the testing area when desired light levels are achieved. The daylighting system provides the high-bay area with an average of 10 hours per day of diffused light, on both sunny and cloudy days, throughout the year. ✂

## NVFEL GETS NEW EQUIPMENT WITH MONEY SAVED THROUGH ENERGY CONSERVATION

by Dick Lawrence, NVFEL

EPA's National Vehicle and Fuel Emissions Laboratory (NVFEL) in Ann Arbor, MI, adds another notch to its conservation belt! By working closely with the Testing Services Division and Detroit Edison and applying effective energy management techniques, facility manager Steve Dorer reduced energy consumption and, subsequently, the peak utility load and demand charge at the facility.

Last year, the Testing Services Division monitored the use of the vehicle testing cells to verify that only HVAC in the active cells—where testing procedures were being conducted—operated during the day. In addition, a real-time kiloWatt meter was installed on the building switch, which allowed the on-site operations and maintenance contractor to maintain lower peak levels by shutting down chillers, reducing other loads, and using the diesel generator. The effort to turn off HVAC in unoccupied test cells, whenever possible, not only reduced the facility's overall energy consumption but it also reduced the peak utility load, resulting in significant cost savings.



The \$45,000 that the facility saved through its energy conservation measures funded two pieces of equipment for the laboratory last year. The first, a \$32,000 vehicle mover allows an operator to maneuver test vehicles without starting their engines. The other, a fuel flow measurement system, which cost \$13,000, is used to test heavy-duty engines. NVFEL management will be adding a small plaque to the mover to remind staff that it was purchased with funds resulting from energy saved, and to reinforce the need for continued diligence in conservation. ✂

## Conservation Calendar

### TRAINING OPPORTUNITIES FOR FACILITY ENERGY MANAGERS

The Agency's energy and water management program for its facilities emphasizes the unique energy and water consumption patterns prevalent in laboratory facilities. Because laboratories are inherently high consumers of both resources, FMSD believes that designing buildings and building systems to integrate advanced and efficient building technologies, such as the use of energy recovery equipment and renewable energy technologies, can significantly reduce energy and water consumption.

To promote this approach, FMSD and DOE with the National Renewable Energy Laboratory (NREL) and the Lawrence Berkeley Laboratory (LBL), are developing training for facility engineers and architects in EPA and other Federal agencies with responsibilities for laboratory facilities. The two-part training, which is being scheduled for later this calendar year, will first encourage an aggressive and comprehensive facility evaluation analysis including on-site energy losses, free energy sources, and applications of technologies to utilize synergistic energy exchanges. This second part will be a procurement course that will present alternative financing contracts (Energy Savings Performance Contracting promoted by DOE) and how agencies can combine systems efficiencies to maximize private investment and capitalization of facility systems.

FMSD encourages all EPA facility managers and engineers to attend the courses that will be held in Washington, DC. These courses are being opened to other federal agencies and to date, registration requests have been received from Princeton Plasma Research Laboratory, Lovelass Respiratory Research Institute, NASA's Jet Propulsion Laboratory, National Institutes of Health, National Institutes of Science and Technology, and National Oceanic and Atmospheric Administration.

For more information on these training opportunities, contact Karen Kimball, Camber Corporation, at (202) 737-1911. ✉

*The following training is being offered by DOE's Federal Energy Management Program over the next few months. For further information, contact the staff listed in the footnotes. If you would like to publicize an event, contact the Clearinghouse at (202) 260-9803, or e-mail "p2group@epamail.epa.gov".*

#### MAY

- 14-15 Operations and Maintenance Management, Boston, MA (1)
- 19-21 Life-Cycle Costing; ASEAM 5.0/Power DOE (Intro.), Rockville, MD (4)
- 20-21 Designing Low Energy Buildings (Non-Residential), Atlanta, GA (3)

#### JUNE

- 3-4 Life-Cycle Costing, Dallas, TX (4)
- 5 ASEAM 5.0/DOE 2.2 Overview Workshop, Dallas, TX (4)
- 17-19 Federal Relighting Initiative, New York, NY (2)

#### JULY

- 28-29 Operations and Maintenance Management, San Diego, CA (1)
- 30-31 Facility Energy Decision Screening, San Diego, CA (1)

#### AUGUST

- 1 FEMP Motor Training, San Diego, CA (1)
- 19-20 Water Resource Management, Seattle, WA (1)
- 26-28 Designing Energy Efficient/Renewable Laboratories, EPA Waterside Mall, Washington, DC (2)

#### SEPTEMBER

- 16-18 Federal Relighting Initiative, Irwindale, CA (2)
- 23-24 Federal Energy Management Overview, Atlanta, GA (2)
- 25 Energy Efficient Products, Atlanta, GA (5)

#### OCTOBER

- 7-10 Energy Savings Performance Contracting (Customized), EPA Waterside Mall, Washington, DC (2)

#### Contacts:

- (1) Shannan Butler (509) 372-4368
- (2) Karen Kimball (202) 737-1911
- (3) Terry Doyle (202) 628-7400 ext. 204
- (4) Amy Tilton (509) 372-4520
- (5) Katie Kroehle (202) 586-4858

### **RESERVE YOUR CALENDARS NOW!**

#### **NATIONWIDE OA CONFERENCE PLANNED FOR SEPTEMBER 1997.**

The Office of Administration is planning a conference to bring together EPA's managers and staff to discuss issues of facility operations, including health and safety, pollution prevention, energy and water conservation, security, master planning, working capital, telecommunications, transfer of property, and many more.

Date: September 16, 17, and 18  
Location: Denver, Colorado

Keep on the look out for more information!

management of federal financial and personnel resources. Set your Internet browser to "<http://www.eren.doe.gov/femp/>" to learn more.

#### **Energy Information Administration**

The Energy Information Administration (EIA), an independent statistical and analytical agency within DOE, maintains a comprehensive data and information program on energy resources and reserves, production, demand, technologies, and related financial and statistical information. EIA's mission is to provide high quality, policy independent energy information to meet the requirements of government, industry, and the public while promoting sound policy making, efficient markets, and public understanding. More information on EIA can be found at "<http://www.eia.doe.gov/>."



### **Resources**

*The following resources can be found on the World Wide Web. If you have located an interesting Web site that addresses pollution prevention or energy conservation, please let the Clearinghouse know, and we will print the address and give a description in this space.*

#### **Energy Efficiency and Renewable Energy Network**

The goal of the DOE's Office of Energy Efficiency and Renewable Energy (EE) is to develop cost-effective energy efficiency and renewable energy technologies that protect the environment and support the nation's economic competitiveness. EE achieves this goal through a strong and balanced program of research, development, and market deployment through private sector partnerships. Visit "<http://www.eren.doe.gov/>" to learn about the Office's programs and related news and information.

#### **Federal Energy Management Program (FEMP)**

Part of DOE's Office of Energy Efficiency and Renewable Energy, the Federal Energy Management Program (FEMP) strives to reduce the cost of government operations by advancing energy efficiency, water conservation, and the use of solar and other renewable energy. FEMP accomplishes its mission by creating partnerships, leveraging resources, transferring technology and providing training and support. Each of these activities is directly related to achieving not only the goals set forth in federal mandates, but also those goals that are inherent in sound

# Save Your Energy: 10 Simple Things You Can Do

- ☐ Use your desktop lamp; why light a tennis court to read a sheet of paper?
- ☐ Use compact fluorescent lamps to save energy and cut pollution.
- ☐ For three copies or less, use the printer; for more, use the copier.
- ☐ Laser printers use 300 watts; inkjets use only 10, for similar quality.
- ☐ Using the "stand-by" button on your copier will lighten your energy load by 70%.
- ☐ A computer monitor uses 60 watts of power; turn it off if you leave for more than 10 minutes.
- ☐ Recycling paper reduces water use by 60%, energy by 70%, and cuts pollution in half.
- ☐ Relax and take mass transit; use 25 times less energy.
- ☐ Burn carbohydrates not hydrocarbons: ride your bike to work.
- ☐ Airplanes burn 70 gallons of fuel a minute. Travel by a real super-saver,—teleconference.

