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## Practice What You Preach

How does the TCEQ rate as an environmental steward? The agency examines its own record in energy conservation.

### The TCEQ examines its own environmental scorecard

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The TCEQ monitors the environmental practices of municipalities, businesses, and industries throughout the state. But who's watching the TCEQ? Is the state's leading environmental agency a good steward when it comes to avoiding waste and practicing energy efficiency?

Administrators and staff have been giving special attention to these questions, probing whether the agency sufficiently follows the principles it touts.

A variety of TCEQ advertisements, public service announcements, newsletters, and publications are issued each year to educate Texans on the wise uses of natural resources. The agency actively promotes pollution prevention, water conservation, air quality, and recycling.

But has the messenger been true to the message?

"The TCEQ has a special responsibility to be a leader in energy and water efficiency," said Commissioner Kathleen Hartnett White. "As the state's primary environmental agency, we are particularly interested in being efficient with our resources."



### Paying for Utilities



White said the TCEQ has undertaken a number of steps in recent years to reduce use of electricity and water, as well as minimize waste. "Now we're asking staff to take energy savings further -- such as making sure they turn off computers and copiers when not in use, printing on both sides of paper, and reusing supplies."

The TCEQ should be "a role model for other government agencies, as well as the customers we serve," she added. "Perhaps our efforts will serve as a catalyst for others."

As of 2001, state agencies are required by law to submit resource efficiency plans to the State Energy Conservation Office (SECO). Those owning their buildings and paying the utilities have until 2006 to adopt cost-effective programs. SECO monitors the progress of agencies' energy conservation programs and provides guidance on measures such as retrofitting structures with energy-saving devices.

In its report to SECO, the TCEQ described the major measures taken to save on energy costs in recent years, as well as potential projects for the future.

These measures are summarized below.

### Plugged In

SECO reports that state agencies and institutions of higher education in Texas spend more than \$220 million a year

to heat, cool, and light their facilities.

The TCEQ is one of only two state offices (the other being the Governor's Mansion) that joined the city of Austin's program promoting renewable energy sources. The city utility draws some of its electricity from wind turbines, methane gas projects, and a small hydroelectric facility -- all in Texas. Companies and residents contracting with the city pay a "green power" charge that remains fixed for 10 years. In contrast, the standard fuel charge, which recovers the cost of conventional fuel needed to produce electricity, fluctuates month to month.

By avoiding the utility fuel charge, the TCEQ has saved about \$106,000 in almost two years. And supporting green power reduces the generation required by power plants burning natural gas -- hence, less pollution.

The TCEQ also has retrofitted overhead lighting in its central office complex in Austin; installed light sensors in one building's private offices, conference rooms, and storage rooms; and carried out other [energy efficiency measures](#). Enacted five years ago, these measures soon begin paying off -- it takes no more than seven years to recoup the cost outlay.



Another TCEQ building is outfitted with solar window screens on the two sides receiving the most sun.



To save on cooling costs, 12 large thermal storage tanks enable one TCEQ building to shut off the air conditioning at midday.

## Monitoring Use of H<sub>2</sub>O

At the TCEQ headquarters, one of six buildings in the complex is fully equipped with low-flush toilets; other toilets are replaced with low-flush models, as needed. In another building, a waterless (no-flush) urinal was installed on a trial basis to determine whether future purchases are merited. Estimates are that installing waterless urinals throughout the complex could save up to 1.2 million gallons of water a year.

A water-use audit by the city of Austin in 2003 resulted in good marks for water usage in the agency cafeteria and two laboratories. The city recommended replacing older toilets in all buildings with the new low-flush models. With rebates, the payback period would only be a year or two. New faucet aerators were recommended in

restrooms to halve water use in sinks.

The city also urged the agency to consider capturing rainwater off rooftops and through the storm water system to irrigate the landscape. Another source of nonpotable water -- especially for laboratories with a high air-exchange rate -- is the condensation from air conditioning coils, according to city auditors.

The TCEQ will implement these recommendations when the budget allows. The agency's landscape irrigation system also has been audited, but those results are not yet available.

## Save a Tree

Cutting back on paper purchases not only pares down the budget but also saves on energy consumption. Paper production involves electricity and water, and the trucks transporting bulk supplies burn fuel.

The TCEQ curbed paper use by 10 percent from 2001 to 2002, and aims to drop another 30 percent this fiscal year. To reach this ambitious goal, employees are encouraged to make two-sided copies of documents rather than single-sided copies, reduce mass distribution lists, and print e-mail messages on paper from recycling bins.

In addition, two projects have gone "paperless." The employee newsletter is now posted on the agency's internal Web site, instead of being produced on paper. Publishing online saves about \$11,000 a year by not having to pay for outside printing and paper costs. The TCEQ also quit making paper copies of its daily news clips, a compilation of newspaper articles pertaining to environmental developments. Instead, Web links to pertinent articles are made available on the internal Web site. The paper savings is about \$6,000 a year.



At the end of each work day, 14 vanpools with TCEQ employees begin the commute home in the Austin area.

All paper products used at the agency are from recycled materials, including office envelopes and paper towels. In a related move, the TCEQ has reduced the number of telephone books it accepts: from 2,450 in 1998 to just 140 this

year. In place of the bulky phone books, staff are encouraged to use electronic versions of the white and yellow pages.

Similarly, the TCEQ no longer prints some of its agency manuals. For example, the manual on operating policies and procedures is maintained on the internal Web site, and any updates are e-mailed to divisions. For the annual Environmental Trade Fair, the agency's largest educational conference, a CD-ROM has replaced the three-volume set of meeting notes and background materials, which typically weighed 10 pounds. The cost to produce the CDs is one-fifth the amount spent printing the hefty volumes.

Other savings are derived from switching to online brochures and registrations in place of mailouts to advertise workshops and seminars on environmental topics.

### Spare the Air

In an effort to ease traffic congestion and lower air emissions, the TCEQ has developed a vanpool program that is the largest in Austin. Of the 118 Capital Metro vans crisscrossing the capital city every day, 14 vans are filled with TCEQ employees (the next largest user is Farmers Insurance Group with 13 vanpools). The TCEQ's 111 employees commuting by vanpool represent more rider participation than any other state agency.

Also, 108 TCEQ employees work from home one or more days a week. That places the agency fifth among the state agencies with telecommute programs, which also help save on energy consumption and reduce air pollution.

This year, the agency joined the CLEAN AIR Force of Central Texas, a group of government, environmental, and business organizations that educate communities on the sources of ozone and how to reduce them. By signing up, the TCEQ pledged a good-faith effort to reduce its own ozone-related emissions by 10 percent over the next three years through vanpooling, carpooling, telecommuting, cycling, walking, and offering more employees a compressed work week. Other strategies include using alternative fuels and landscaping practices, and sponsoring educational activities. Each participant agrees to profile its own emissions, propose ways to reduce pollution levels, and file progress reports.

### Doing More With Less

In the resource efficiency plan submitted to SECO, the TCEQ proposed a five-year plan to cut energy consumption in agency-occupied buildings by 12 percent and water use by 10 percent.

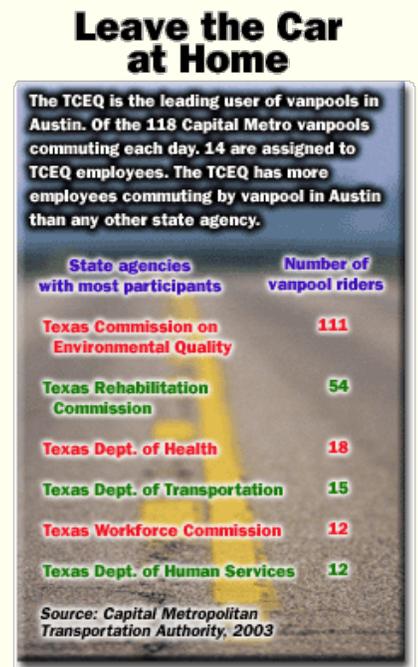
The recent updating of operating software in the energy management systems will help. So will regular recalibrating and balancing of the heating and air-conditioning equipment to optimize operations.

Furthermore, the TCEQ is expanding employee awareness programs to better educate its office workers about conservation practices. Employees are being asked to do more with less -- not only in keeping with sound environmental practices but also to help with the state budget crunch.

Regular e-mails offer helpful hints on office energy efficiencies, recycling, water conservation, and waste reduction. Orientation sessions for new employees now feature information on the agency's energy and water conservation policies, paper reduction, and recycling. In fact, the orientations are no longer held in a classroom -- employees receive the instruction at their desks via the internal Web site.

The TCEQ also has developed an online version of the class on equal employment opportunity law and practices. Both examples of online instruction have eliminated a good deal of regional staff travel to Austin.

The TCEQ continues to look for ways to minimize the demands on natural resources, in keeping with current budgetary restraints and the goal to be a good steward of the environment.



## TCEQ Energy Efficiency Projects, 1997-2003

The TCEQ headquarters in Austin consists of [six buildings and a parking garage](#). Almost 2,000 employees work at the office complex, which covers 36 acres. Five of the buildings, which were constructed between 1983 and 1993, are lease-to-own. The sixth building (Building F) is fully leased.

The following conservation measures were conducted at Buildings A-E, which the state will eventually own.

- Electronic controls, rather than thermostats, help maintain a constant temperature in the buildings when employees are present. At 6 p.m., the temperature automatically resets for the night.
- Exterior vestibules added to the entrances of two buildings slow the escape of cool air in the summer and heat in

the winter. Exterior wall seams are due to be caulked in all the buildings to prevent water leaks and enhance energy efficiency.

- During roof replacements at Buildings C, D, and E, the insulation was increased.
- Fluorescent lights and ballasts were replaced in all buildings with cooler-burning materials, and the lamp wattage was reduced.
- Joining the city of Austin's GreenChoice program enabled the TCEQ to lock in long-term savings for 7 percent of its electric consumption. The local utility draws part of its energy from clean, renewable sources such as wind generators.
- A thermal storage cooling system in Building A provides cost-efficient air conditioning. Each night, ice is produced by chillers and stored in 12 large tanks. In the summer, the conventional cooling system shuts down after lunch, and the building is cooled the rest of the day with this thermal system. Minimizing use of the chiller during peak-demand times earns a discount from the local utility.
- All offices, conference rooms, and storage rooms in Building A are equipped with motion sensors that turn off lights when no one is present.
- Solar panels on the roof of Building A assist with heating water used in the cafeteria and restrooms. Solar screens installed on two sides of Building C reduce heat gain in the summer. A new pedestrian crossing signal is solar powered.
- Key areas of the property have been landscaped with native, drought-tolerant trees and shrubs. Also, the sprinkler systems were upgraded with moisture sensors to make sure they do not activate during rainfall.



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