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Carbon crusaders

The Baldacci administration is challenging Maine businesses to cut their greenhouse-gas emissions.

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Staff Writer

Precise temperature control is important at National Semiconductor in South Portland, which makes microchips for electronic devices ranging from personal computers to digital cameras.

But temperature control has a price, both for National and the environment. The plant burned roughly one million gallons of fuel oil last year and emitted 10,200 metric tons of carbon dioxide, a so-called greenhouse gas associated with global climate change.

That's an improvement. Two years ago, workers fixed leaky steam traps and saved 173,000 gallons of oil. The upgrades also

cut carbon output by 1,762 metric tons. Good for the bottom line and the earth.

But National isn't done. It's among the growing list of Maine employers that have agreed to take "The Governor's Carbon Challenge." The goal is to reduce greenhouse-gas emissions to 1990 levels by 2010.

The challenge is an outgrowth of a climate-change agreement signed four years ago by the New England Governors and Eastern Canadian Premiers. In 2003, Maine became the first state to enact the goals into law.

The bill sets a target of signing up 50 Maine companies by January 2006. This summer, the Baldacci administration is

stepping up its efforts to convince employers that fighting global warming is good for business.

Several employers have signed the voluntary carbon-cutting agreement. They include Oakhurst Dairy, York Hospital, the University of Southern Maine, the city of Portland, International Paper/Bucksport and Lyman Morse Boatbuilders.

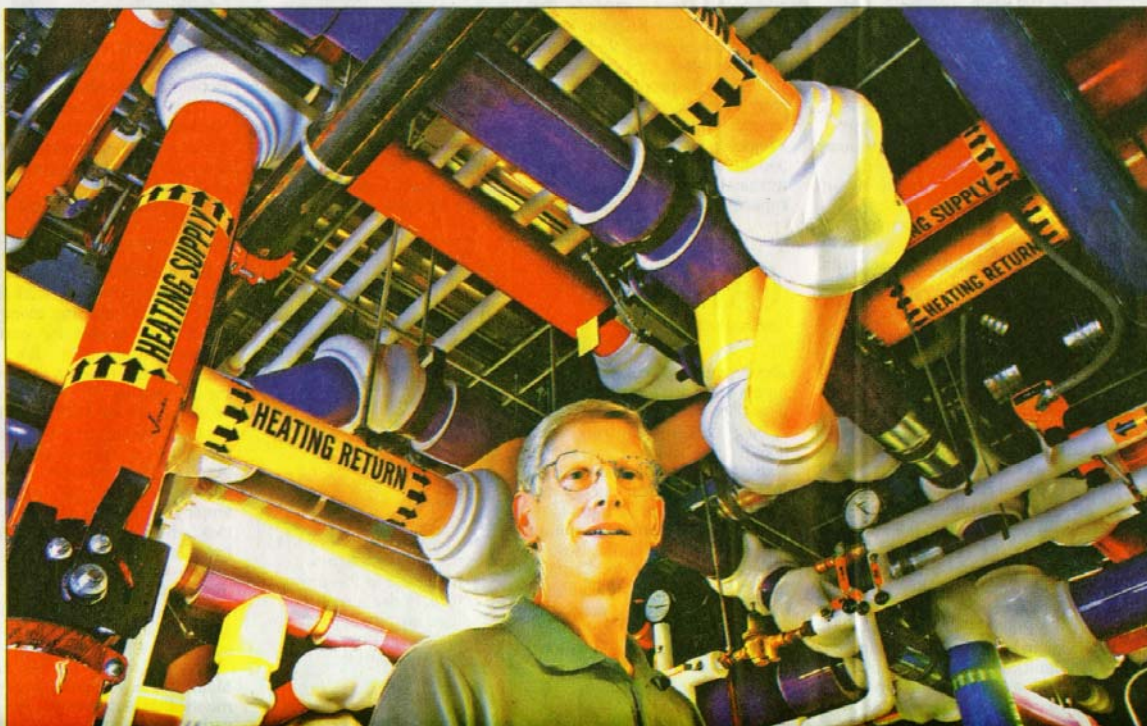
It's too early to know how many more employers will take the carbon challenge. Some participants say the paperwork involved in documenting progress in some workplaces will limit the response. They also say companies are wary

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The photovoltaic panels atop the Abromson Community Education Center are environmentally friendly solutions that also cut energy costs.

FIGHTING GLOBAL WARMING



Dudley Greeley, the sustainability coordinator for the University of Southern Maine, is in charge of reducing carbon dioxide emissions at the institution. Among the energy- and money-saving tools is this state-of-the-art heating and cooling system that stores heat in the ground beneath the Abromson Community Education Center.

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about making capital investments that don't guarantee fast paybacks.

Dick Hall, the environmental health and safety manager at National Semiconductor, said many of the biggest energy and greenhouse-gas reductions identified at the plant come from investments that take two or three years to recover. That's a long time in the computer chip industry, where technology changes quickly.

"We're pushing our folks hard to find paybacks under a year, and we're finding them," Hall said.

Global warming was in the news again recently when President Bush ruled out U.S. support for any gas-reduction deal at a summit of industrialized nations in Scotland. Bush is a vocal opponent of the 1997 United Nations Kyoto Protocol, which sets legally binding reductions on carbon emissions.

A common way that participating countries hope to get their residents to cut greenhouse gases is by issuing a "One Tonne Carbon Challenge." The goal is to get every citizen to cut carbon dioxide emissions by one ton over one year. They are being encouraged to recycle, replace standard lightbulbs with energy-efficient models, carpool and wash laundry in cold water, among other things.

Maine's program, "The Governor's Carbon Challenge," brings that concept to the workplace. In partnership with the Department of Environmental Protection, employers calculate their base year (1990) emissions, then develop strategies to cut and measure carbon output.

Once 1990 levels are achieved, the law sets a goal of reducing carbon output another 10 percent by 2020. The overall target is for Maine to cut its carbon dioxide emissions by 75 percent to 80 percent from 2003 levels.

Maine's program also reflects an approach being used by Clean Air-Cool Planet, a nonprofit organization working to promote global warming solutions in the

WHERE GREENHOUSE GASES COME FROM

GREENHOUSE GASES occur naturally, releasing water vapor, carbon dioxide and methane into the atmosphere. People can add to these levels, however. Burning fossil fuels releases carbon dioxide. Decomposing waste in landfills creates methane. These and other gases absorb heat in the atmosphere. Many scientists believe human activity is speeding up changes in the earth's climate.

Northeast. The group has worked with several major businesses in the region, including Shaw's Supermarkets.

A case study on Shaw's by Clean Air-Cool Planet outlined the investments the supermarket chain made to improve technology in lighting, refrigeration and heat recovery. An investment of \$4 million in 60 stores for the most efficient lighting paid for itself in three to four years.

Along with other improvements, the upgrades cut carbon emissions by more than 32,500 tons a year, with an equivalent oil reduction of 2.5 million gallons a year, according to Clean Air-Cool Planet.

Bob Sheppard, the group's deputy director in Portsmouth, N.H., acknowledged that most employers can't get too excited about reducing their "carbon footprint," the impact that daily energy use has on greenhouse emissions. But they are very interested in cutting operating costs.

One challenge has been designing programs that give employers flexibility to meet the carbon-cutting goals so they don't feel roped into making a public commitment they can't keep or can't afford.

The city of Portland, for instance, signed up for the challenge last month. It has 1,400 employees, 64,000 residents and, according to a 4-year-old survey, releases more than 972,000 tons of carbon annually.

Peter DeWitt, the city's communications director, said Portland doesn't have any money in its current budget for carbon-cutting investments. It's just beginning the process of reviewing policies in city government. Working with the DEP and Clean Air-Cool Planet, it will examine fuel usage in vehicles and buildings. It may consider no-cost changes, such as requiring employees to turn off city vehicles when they're not actually being driven.

Once large employers do commit to the program, they can identify an almost endless stream of improvements, big and small, that add up over time.

The University of Southern Maine is a case in point. Improvements that cut energy use and carbon output are well under way on the Portland and Gorham campuses, but plenty of opportunities remain.

On a recent tour, Dudley Greeley, the school's sustainability coordinator, pointed to one of the 67 exit signs in the Glickman Library. Signs in the 12-year-old project had 22-watt bulbs. They were costing \$1,420 a year to run.

Greeley had them changed to the latest technology, which consumes only a half-watt. They keep exit signs lit for \$36 a year. The switchover will pay for itself in 1.3 years, while avoiding the release of 5.3 tons of carbon.

"This is probably the best example," Greeley said. "We have thousands of exit signs."

Another big cut: A facilities storage building had 70, old-style fluorescent light fixtures that each used 80 watts. They were wired directly into the circuit breaker, on all the time, even though workers only visited the space a few times a day.

An electrician wired a bank of five switches at the entry for \$700. Now the lights are off most of the time. The job saved \$3,500 a year and cut carbon output by 25 tons.

A third example: Greeley had lights disconnected in 75 vending machines scattered around campus. Keeping them lit costs \$100 a machine.

"That simple step saved \$7,500 a year," Greeley said.

And took 35 tons of carbon dioxide out of the atmosphere.

USM also is cutting fuel costs

LEARN MORE . . .

DETAILS about "The Governor's Carbon Challenge" are online at www.maine.gov/dep/oc/carbon.htm

CURRENT PARTICIPANTS

NorDx Medical Labs
National Semiconductor
Winthrop Congregational Church
Lyman Morse Boatbuilders
Guilford of Maine/Interface
Washboard Laundry
Oakhurst Dairy
City of Portland
ZF Lemforder
Baldwin Ladder
Swett Street LLC
University of Southern Maine
Seacoast Property Management
Chewonki Foundation
International Paper/Bucksport
MaineEnergy Investment Corp.

and carbon emissions by designing new projects to the most efficient, green-building standards. In the basement of the new Community Education Center, Greeley showed off the four heat pumps that use groundwater to help heat and cool the building. Electricity to run the pumps comes from renewable energy contracts, in this case, wind power. Carbon output: zero.

A big barrier to more Maine employers taking these steps, Greeley said, is the tendency to focus on capital costs rather than operating costs. On tight budgets, companies look for the least expensive lighting, for example, without calculating what it will cost to run the lights over time.

"They're fighting to save 1 percent on capital costs when the real savings are in operating costs," Greeley said.

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