

PROFILE



## Program Director Nevin Cohen

For the past year and a half, Nevin Cohen has directed INFORM's researchers in projects ranging from manufacturer responsibility for the end-of-life of their products to alternative fuel technologies and the role of public information in industrial pollution prevention.

Dr. Cohen came to INFORM with a wealth of professional and academic experience in corporate and government policy. He was director of research at the Center for Environmental Communication at Rutgers University, studying the influence of community advisory panels on the chemical industry's environmental performance. As an environmental planner and policy analyst in New York City government, he was responsible for crafting New York's landmark recycling law and the law that shut down incinerators in NYC apartment buildings. Dr. Cohen earned his B.A. in economics from Cornell University, his M.A. in city and regional planning from the University of California at Berkeley, and his Ph.D. in environmental planning and policy development from Rutgers University.

During a recent lunch break, we asked Dr. Cohen to reflect on his vocation and on his experiences at INFORM so far.

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## Ethanol-Fueled Vehicles: Ready but Not Really Able

The US Postal Service (USPS) announced in September that it had awarded a \$206.4 million contract to Ford Motor Co. to replace 10,000 aging delivery trucks with alternative fuel vehicles. The first 500 trucks will arrive in New York and New Jersey in May—a seemingly promising development for an area with ozone, carbon dioxide, and particulate levels well above federal standards.

Or is it? The new trucks are designed to be powered by either gasoline or ethanol, a fuel produced from corn. INFORM staff investigated further and learned that the vehicles are not likely to actually use ethanol, because the nearest public refueling station is 700 miles away and USPS has no plans to supply the fuel.



Photo: USPS

A United Postal Service truck tanks up at a natural gas refueling station.

The Postal Service purchased the fleet of "ethanol-capable" trucks to comply with a federal requirement that, by 1998, half of all new government vehicles be able to run on an alternative fuel. In enacting the Energy Policy Act (EPACT) in 1992, Congress aimed to reduce polluting vehicle emissions and US dependence on foreign oil while remaining "fuel-neutral." Rather than favor one alternative fuel over the other, Congress wished to foster investment and R&D in the full range of transportation options, from ethanol to compressed natural gas to electric batteries and fuel cells. But as INFORM research director Nevin Cohen observed in a *New York Times* report on the story, for government vehicles to be considered in compliance with the law merely because they are able to run on ethanol, even when the fuel itself is nowhere to be found, "is not fuel-neutral—it's fuel nutty."

### A questionable alternative

Even apart from the issue of supply, ethanol has a number of inherent drawbacks that make it a questionable choice as an alternative fuel, especially compared with more readily available options like natural gas.

Because ethanol is made from corn, a relatively high-quality, high-cost ingredient, its manufacturing costs are more than twice those of gasoline. And ethanol plants themselves are hardly energy efficient—it can take up to 7 gallons of oil or its energy equi-

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# Letter from the President

## The Gift of Clean Air



A child's first breath is one of life's greatest gifts. And one of the best gifts we can give our children in return is a lifetime of healthy air.

Last month, the spotlight was on the global climate change negotiations in Buenos Aires. Their aim is to reduce the greenhouse gases that have risen more than 30 percent this century, threatening to disrupt the climate worldwide. US citizens are by far the biggest contributors to this problem both per capita and in absolute tons — 1.4 billion versus .8 billion from China, the number two contributor. Most other industrial nations have accepted the need to cut greenhouse gases; US leaders are still locked in debate.

If we work to reduce greenhouse emissions, we will simultaneously reduce other air pollutants that threaten human health. In Los Angeles, air pollution causes children to have significantly less lung function. In New York and

other major cities, hospital admissions and asthma rates among children are rising—soot particles being an aggravating factor. The same cars, buses, and trucks that contribute 5 to 6 percent of the world's greenhouse gases contribute 50 to 90 percent of the health-threatening pollution in our cities.

What can you do? Let your political leaders know you support conversion of government fleets and urban bus and taxi fleets from gasoline or diesel to natural gas or electric vehicles. The US has a strong framework under the Clean Air Act and the Energy Policy Act to promote cleaner transportation fuels. However, as the article in this issue on "ethanol-capable" mail trucks shows, unless citizens are informed and active, mandates may not turn into effective programs.

You can also set an example in your own life. Walk, ride a bicycle, or take mass transit to work. If you have to drive, choose the most fuel-efficient vehicle. Won't you breathe easier this holiday season knowing that you're helping to give our children the gift of clean air?

## E-Commerce: A boon for the environment?

This holiday season, 43 percent of Americans who use computers are likely to shop on-line for everything from books to blue jeans. Analysts project sales over the Internet to reach \$2.3 billion this Christmas, more than double last year's. By 2003, more than 40 million US households will buy on-line, spending \$108 billion, or 6 percent of total retail sales, according to Forrester Research, Inc.

When goods are marketed over the Internet, customers are enticed less by attractive packaging than by on-line pictures, videos, and text. This could give manufacturers a chance to innovate with smaller containers made of recycled materials and fewer inks and coatings—with no loss of marketability. It could allow consumers to search for the least toxic, most durable and energy-efficient products. Manufacturers may be able to use the Web to customize their products to meet specific environmental needs—detergents appropriate to local water conditions, say.

Ultimately, the Internet may allow computers to perform functions that now consume material resources. For example, bill paying on-line can drastically reduce the paper, ink, and fuel used to print and deliver paper bills, which account for 60 percent of the 62 billion pieces of first-class mail delivered annually by the US Postal Service. Clearly, Internet commerce has enormous implications for natural resource use, product design, and energy use, trends that INFORM is tracking.

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# Ethanol-Fueled Vehicles

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valent to produce 8 gallons of ethanol. As to costs to consumers, where ethanol is available to the public, it is sold in a blend with 15 percent unleaded gasoline that costs 10 to 15 cents more per gallon than regular unleaded, even when various tax advantages are factored in.

Most important, although ethanol reduces tailpipe emissions of carbon monoxide and can extend the supply of petroleum-derived fuels, it cannot eliminate the need for oil. In fact, INFORM's research indicates that, if every acre now producing corn in the United States were dedicated to ethanol production, the fuel produced would supply less than 20 percent of the annual gasoline demand. Nevertheless, ethanol remains popular among some in Congress because it provides a means of subsidizing corn growers back home.

## Finding the fuel that fits

If the government's policy were "fuel-appropriate" rather than fuel-neutral, the ethanol-capable vehicles would be sent to the Midwest, where corn is grown and there are public ethanol fueling stations. In the rest of the country, federal fleets meeting EPACT's alternative fuels quota (which rises to 75 percent of new vehicles in fiscal 1999) would likewise be powered on the basis of fuel supply, as well as environmental impact and vehicle function.

In New York, for instance, abundant supplies of natural gas offer a chance for real relief from the environmental, security, and health effects of a transportation system based on petroleum.

New York already has more than 4000 of the nation's 70,000 natural gas vehicles in the public sector alone. These are serviced by about 50

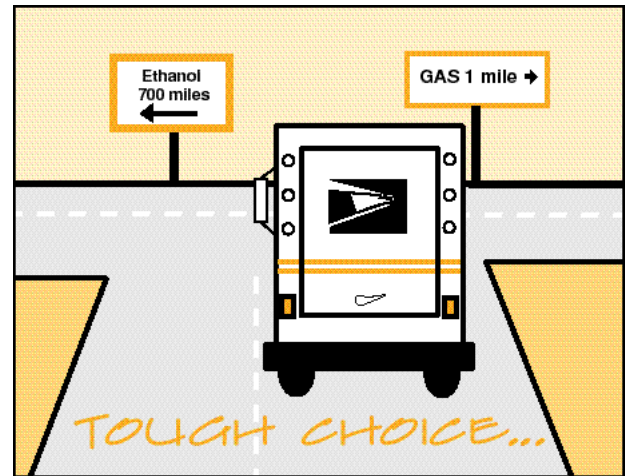
refueling stations—many in New York City. UPS and other operators of large fleets are now using natural gas vehicles in the New York region. The NYC Dept. of Transportation and Metropolitan Transportation Authority are both increasing their fleets of natural gas buses, and city taxicabs are also being converted to natural gas. Finally, the state recently passed tax incentives making alternative fuel vehicles, including those powered by natural gas, more attractive to average citizens.

## The best interim option

Natural gas offers substantial advantages over oil-derived fuels, especially in the near term. It performs well and is far cheaper than gasoline. It is abundant domestically and is transported over an established network of pipelines. Most important, compared to petroleum-powered vehicles, natural gas vehicles emit:

- Up to 95 percent less carbon monoxide and toxic air pollution.
- 80 percent less hydrocarbon.
- Nearly 20 percent less carbon dioxide.

In the coming century, travelers will be able to choose from a variety of less polluting vehicle options, from battery-powered electric vehicles to fuel-cell vehicles powered by non-polluting, renewable hydrogen. Hydrogen vehicles may well prove to be the ultimate sustainable driving machines, but establishing a hydrogen-based transportation system will probably take a few decades. In the



meantime, natural gas—whose storage and distribution requirements are similar to those of hydrogen—can facilitate the transition.

## The spirit of the law

When Congress enacted EPACT in the wake of the Gulf War, its intention was for government to lead in the effort to reduce US dependence on imported oil. Today, however, we rely more than ever on overseas oil, especially for transportation.

As one of the largest purchasers of fleet vehicles in the United States, the federal government's compliance with the spirit—and not just the letter—of EPACT's requirements is crucial to the implementation of an effective alternative fuel policy. In the coming months, INFORM will be meeting with USPS officials to discuss redeploying the ethanol-capable trucks to places where refueling stations are available in exchange for natural gas vehicles previously deployed to areas not served by natural gas pipelines. ❖

For more information on alternative-fueled vehicles, see *Gearing Up for Hydrogen* at <http://www.informinc.org/gearup.htm>; for New York's programs in particular, see *Spotlight on New York: A Decade of Progress in Alternative Vehicle Fuels* at <http://www.informinc.org/spotlite.pdf>.

# Profile: Nevin Cohen

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## How far back does your personal interest in environmental issues go?

To the fourth grade, when a classmate and I set up a table in our neighborhood to raise money to protect harp seal pups in Canada. That was my first exposure to environmental politics and education. Then, in junior high—during the 1973 energy crisis—I entered a science fair that focused on energy, and my proposal to increase mass transit between New York City and the suburbs won a prize from Texaco. In high school, I designed a house that used “solar chimneys” for ventilation and heating, which also won awards.

## What was your first experience of environmental activism as an adult?

At Cornell University, where I found out that some dormitory ceilings were coated with asbestos, a cancer-causing substance that had been used for decades in building products. For four years, I waged a campaign to get the administration to disclose the results of tests it had conducted on the condition of the ceilings. Eventually, I obtained a copy of the study, which recommended the immediate removal of the asbestos, and released it at a public meeting and to the local newspaper. A year later—after I’d graduated—Cornell finally renovated the affected dormitories and removed the asbestos.

## What attracted you to INFORM, after years of working in city government?

I’d always found INFORM’s research to be enormously useful, and I also liked its philosophy of prevention—focusing on avoiding pollution rather than merely managing waste. INFORM’s commitment to creating a more informed public also fit with my own interest in the role that ordinary citizens can play

in making decisions about their environment. In graduate school, my research focused on how to engage the public in environmental decision-making. I was interested in how industrial risks are perceived by citizens and lawmakers, how government agencies could better communicate with citizens about environmental problems, and how citizens could influence the performance of industrial facilities.

## What new directions has INFORM taken since you came on board?

We’re beginning to have a much greater presence on-line and are compiling an Internet database of advances in hydrogen fuel cell technology and waste prevention strategies for businesses. We’re also exploring some interesting new topics, such as how to shift our nation’s toxic chemical policy to focus on exposure prevention, how trends toward Internet commerce and the leasing of products could reduce the use of natural resources, and how to enable the developing world to leapfrog the gasoline engine and invest in cleaner transportation technologies.

## What are your own aspirations for INFORM?

I would like to expand our use of the Internet, so we can get our research into the hands of business leaders, government officials, and citizens more efficiently. I think our international work is critical, since vast population growth and urbanization in the developing world create such huge environmental challenges. I’d also like to see us expand our work with companies to apply the lessons we learn—bringing an independent perspective to bear as they develop new ways of meeting people’s needs that are safer, more efficient, and less resource intensive. ❖

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# INFORMing Others

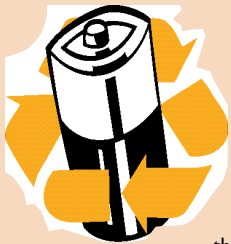
**INFORM's recent activities and findings**

## Tackling Toxics in Solid Waste

### Battery Takeback Gets a Jump

Every year, close to 150,000 tons of discarded batteries flow into landfills around the country. Although batteries make up only a small fraction of the waste stream, they account for a disproportionate percentage of the toxic heavy metals it contains. These materials pose significant environmental and public health dangers, and rechargeable nickel-cadmium (Ni-Cd) batteries are a major source. Responding to outreach by INFORM, New York state and city agencies are beginning to address the management of these toxic products in their own operations and are providing information on their safe disposal to the public.

Nickel-cadmium batteries are of special concern because they are increasingly used to power cellular phones, video cameras, and portable electric appliances. Over half of the cadmium entering the environment through the municipal waste stream comes from Ni-Cd batteries, and the amount is rising.



In 1995, the battery industry established the nonprofit Rechargeable Battery Recycling Corporation (RBRC) to administer the collection and recycling of rechargeable batteries. RBRC has set up four separate collection systems for the different generators of used Ni-Cds:

retailers, communities, businesses and public agencies, and the federal government. Individual households can take advantage of the program by bringing their used batteries to participating retailers or municipal collection sites. Businesses can participate by shipping their used batteries to one of three RBRC consolidation points around the country. Call 1-800-BATTERY for more information.

One place to prevent this waste is at the procurement stage. The New York State Office of General Services (OGS) purchases more than \$900 million worth of supplies, material, and equipment annually, and it awards service and technology contracts for all state agencies and participating local governments. As a result of discussions with INFORM, OGS is now providing information to all state agencies on how to participate in the national Ni-Cd battery takeback program (see box, above) and has placed information about waste prevention and battery recycling on its web site.

At the local level, the NYC Dept. of Sanitation has agreed to publicize industry-funded Ni-Cd recycling on its web site, providing an easy way to locate participating retailers in the take-back program. Also as a result of INFORM's advocacy, the Mayor's Interagency Task Force on Waste Prevention has directed 35 city agencies to begin recycling rechargeable batteries.

For more information, see *Industry Program to Collect and Recycle Nickel-Cadmium (Ni-Cd) Batteries*, at <http://www.informinc.org/battery.html>.

## Working for Cleaner Industry

### Business and Environmental Goals in Sync

INFORM president Joanna Underwood spent a lot of time on the road this fall, bringing the message of sustainability and profitability to chemical companies around the country.

In talks before leaders of the polyurethane plastics industry, the National Association of Environmental Managers, and environmental health and safety leaders at Novartis (now the world's largest chemical company), Ms. Underwood acknowledged that businesses today are in a difficult position, struggling to address public concerns about the environmental and health effects of their products while winning and holding on to customers. At the same time, companies that lose no time in adapting their operations to protect the public's health and the health of our natural resources can gain a tremendous advantage.

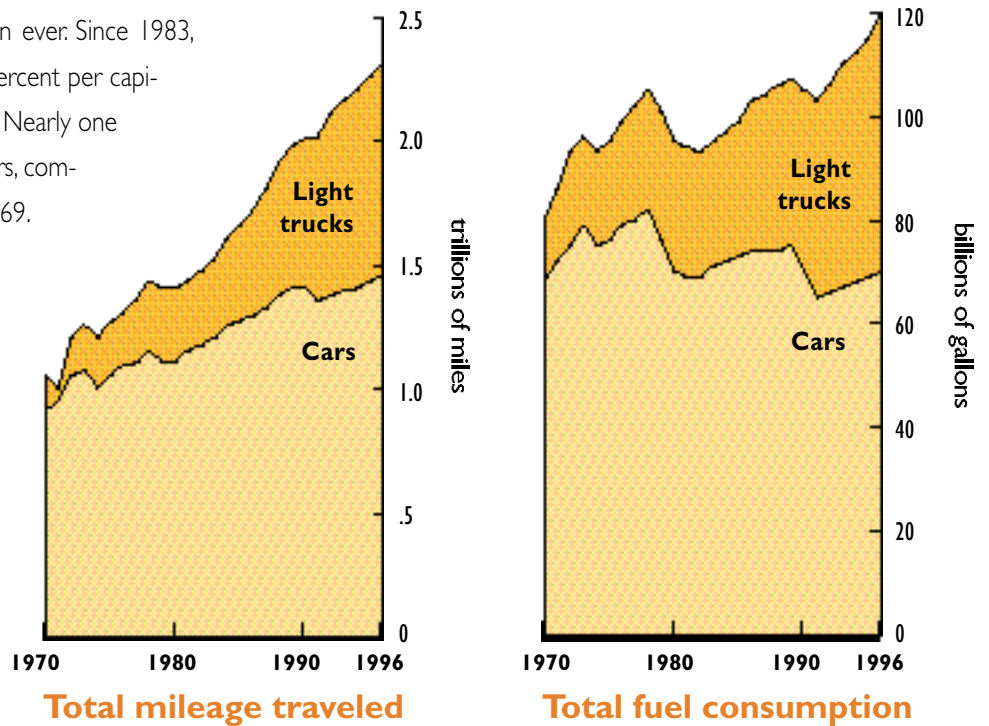
While most of the efforts of government and industry have focused on plant-related pollution control, INFORM's research suggests that products, not wastes, may be the most significant source of contamination. Indeed, toxic chemicals may create risks through exposure wherever they are found. In the United States, the chemical industry produces, uses, and imports 6 trillion tons of chemicals a year, far more than the billions of pounds of chemical wastes generated at plant sites. Ms. Underwood outlined steps that companies can take to build public trust and ensure their own success, including:

- Thoroughly tracking the flow of chemicals through plants, in transport, and in products.
- Accelerating plant programs to prevent wastes at the source.
- Voluntarily disclosing to the public information on performance and the results of any risk analyses they have done.

"Today," Ms. Underwood said, "maximum prevention of exposures to toxic chemicals, wherever they are used, is a corporate goal that makes sense, since national efforts mandating risk assessment have largely failed."

# INFORM: Fuel Use on the Roads

**Americans** are driving more than ever. Since 1983, energy use for travel has increased 12 percent per capita, back up to the previous peak in 1978. Nearly one in five households has three or more cars, compared to about one in 25 in 1969. Commuting distances have grown as car pools and the use of mass transit have declined. And people are now buying cars and gas-guzzling light trucks (including minivans and SUVs) in nearly equal numbers. Next year, Americans are expected to burn more fuel per person on the roads than in 1973, before the government set mileage standards.



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