

INFORM reports

Strategies for a better environment

Summer 2004, Vol. 24, No. 2

INFORM Workshops Help California Garbage Fleets “Green” Their Vehicles

Diesel-fueled garbage trucks are among the most polluting of all vehicles, and in a place like the San Joaquin Valley, they can make a bad situation even worse. A 25,000-square-mile bowl-shaped area in central California, the valley is a natural repository for its own pollution, mainly from vehicle emissions, as well as for pollution blowing in from the surrounding Los Angeles and San Francisco Bay areas. The San Joaquin Valley recently achieved the dubious distinction of surpassing Los Angeles to become the most polluted region in the entire US.

This spring, two INFORM workshops in Merced and Bakersfield gave refuse haulers in the San Joaquin Valley an opportunity to learn more about alternatives to diesel-fueled trucks and how they can help address the area’s severe pollution challenge. The workshops were the latest in a series of “Greening Garbage Truck” events being held by INFORM and local groups around the country, from California to New York City.

Natural Gas-Fueled Refuse Trucks Take Hold

The environmental and health impacts of refuse collection trucks, transfer vehicles, and dedicated recycling trucks, comprehensively studied for the first time in INFORM’s 2003 report *Greening Garbage Trucks: New Technologies for Cleaner Air*, are of growing concern not only in the San Joaquin Valley, but through-

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INFORM Spotlights Fluorescents

New Report Identifies Significant Source of Mercury Pollution and Recommends Less Toxic Alternatives

Mercury pollution is a serious environmental problem, but most people don’t realize that a major source of this dangerous neurotoxin is right over their heads—in the fluorescent lamps that light up the places where they work and spend time every day. In 2004 alone, consumers will discard approximately 680 million lamps containing 13 tons of mercury, some of which will be sent to landfills and incinerators and eventually wind up in our lakes, rivers, and streams. Thirteen tons may not seem like a lot, but think again: a single ton of mercury is enough to contaminate over 1.3 billion three-pound fish to the point where they are unsafe to eat. In fact, there is no safe level of mercury exposure for human beings or the environment.

Despite the potentially significant environmental and health impacts of lighting, these products have not, until recently, received much attention from practitioners of “green building,” whose efforts to design buildings with minimal impact on the environment have generally focused on energy efficiency and indoor pollutants such as formaldehyde. This spring, at a workshop for building professionals co-sponsored by the



Environmental Protection Agency (EPA), Region 2, and hosted by the Durst Organization (a pioneer in the green building movement), INFORM provided eye-opening details on the mercury contained in building lighting and mechanical systems and strategies to reduce or eliminate it.

“Until recently,” says Green Building Specialist Cameron S. Lory, a principal contributor to INFORM’s new manual, *Shedding Light on Mercury in Fluorescents: A Workbook for Design Professionals*, “there was little that architects, contractors, and interior designers could do to avoid the large quantities of mercury, lead, and other toxic substances found in new buildings. But growing awareness of the dangers posed by hazardous materials is motivating many building professionals to seek out safer alternatives.” INFORM’s workbook provides

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Letter from the President

Across America, Communities Start to Embrace Sustainability



This summer, I traveled to Ottawa to speak at the annual meeting of the Academy of Legal Studies in Business, a group of lawyers who teach business students and who

this year gathered to assess the directions in legal thinking that tomorrow's business leaders need to understand. My remarks focused on the tremendous energy and momentum that, despite four years of failed environmental leadership, are building at the community level in the US and are becoming a force to be reckoned with. These activities focus on the development of "sustainability plans" to guide local growth, and on "green purchasing" as a major strategy for implementing them.

While political leaders in this country go on debating whether global climate change is really caused by human activity, whether highly toxic chemicals should be eliminated from commercial products, and what to do about reducing the vast amounts of solid waste we create, citizens and local governments are tired of waiting

for solutions. If mercury is a known neurotoxin that damages our children's intelligence, and if mercury-contaminated lakes, rivers, and streams in 48 states have resulted in advisories warning against the consumption of fish from these waters, why are products containing mercury still permitted to be freely sold? Similarly, if the emissions from diesel vehicles have been clearly labeled "potential" or "likely" carcinogens by health agencies in the US and internationally, and if these emissions are recognized as a major trigger of asthma attacks while natural gas buses and trucks are 80% less polluting (and don't rely on oil), why have our national leaders zeroed out the Department of Energy budget for natural gas vehicle development, failed to support broad economic incentives for alternative-fuel vehicles, and instead allocated \$60 million for "clean" diesel research?

The question our citizens and communities are asking is: "Just who is looking out for our health and the health of our children?" And they have concluded that their own efforts are needed and that a vision of a sustainable future must inform their planning. The concept of sustainability implies not only the need to

safeguard our natural resources and take a preventive approach to wastes and toxic threats, but also the goal of economic strength and social equity.

Local initiatives promoting sustainability are beginning to spring up across the country. Whether it's the Sustainable Development Plan created by the Township of Montclair, New Jersey; the plan for San Francisco developed by city agencies, businesses, and environmental groups; the Massachusetts State Sustainability Program established by executive order in 2002; the Minnesota Sustainable Development Initiative; or the Puget Sound Sustainability Plan, these efforts represent a new, grassroots awareness that our planet is indeed fragile. Concrete action is needed going way beyond regulatory compliance with our national laws if we are to have any chance for a peaceful and healthy future. These plans are all rooted in the UN's definition of a sustainable society—one that "meets the needs of the present without sacrificing the ability of future generations to meet their own needs."

Not a single one of the practices discussed in this issue of *INFORM Reports*—buying natural gas trucks, illuminating our homes and places of business with the lowest-mercury lighting available, or redesigning cell phones to get out the toxics—is required by our country's laws. They are, however, crucial steps toward a sustainable future. In Ottawa, I urged my audience to discuss the new challenges that business leaders of the future will have to grapple with. In this country and in this election year, our national leaders would also do well to listen carefully to the message being sent by millions of Americans.

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a member of **Earth Share**

INFORM Spotlights Fluorescents (continued from page 1)

the first systematic data on the mercury content of different lamp models and brands, enabling individual consumers, as well as major corporations and government institutions, to choose lamps that contain the least amount of mercury possible while providing the performance they need.

A Nationwide Threat to Human Health

Mercury belongs to a group of chemicals of particular concern to the EPA because of the extreme and long-lasting danger they pose to the environment, wildlife, and human health. In addition to being toxic, these substances, known as persistent, bioaccumulative toxins (or PBTs), do not break down in the environment, so small amounts released over time can eventually build up to dangerous levels. They also accumulate in living tissue, increasing in concentration, as animals, moving up the food chain, ingest growing amounts of the chemical from larger and larger prey. As a result, animals (including humans) may contain mercury in concentrations thousands to millions of times higher than those of the surrounding environment.

Mercury exposure can result in irreversible damage to the nervous, renal, and respiratory systems. Nationally, close to 8% of women of childbearing age have blood mercury levels that exceed the EPA's safe upper limit, doubling their risk of giving birth to children with mental and/or neurological problems. Each year, as many as 630,000 children in the US—one out of six newborns—could be at risk for developmental delays associated with mercury exposure. Because the most common route of human exposure to mercury is consumption of fish from contaminated waters, fish consumption advisories have been issued in states across the US (see box).

Mercury Makes for Troubled Waters Across the US

According to the EPA's "National Listing of Fish and Wildlife Advisories":

- Mercury accounts for nearly 80% of the fish consumption advisories issued for major pollutants.
- In 2003, water bodies in 48 states were under mercury advisories—all but Alaska and Wyoming—compared with 44 states in 1993.
- A total of 18 states, including all of New England, are under fish consumption advisories for mercury in all their lakes and rivers.
- Twelve states from Texas to Maine have issued advisories for mercury in all their coastal waters.
- The geographic extent of mercury contamination in the US covers 12,069,319 lake acres and 473,186 river miles.

Mercury-Free Shopping

According to one estimate, fluorescent lamps account for approximately 12% of the mercury contained in commercial products. They are considered a sufficiently significant threat to warrant action by the EPA, which has encouraged recycling to keep lamps from entering the municipal waste stream. However, only about 20% of fluorescents are recycled; the rest are thrown out in the trash to await collection with ordinary waste. Many of these get broken before disposal, releasing their mercury into the environment.

To address the problem in a more proactive fashion, INFORM's Green Building Program aims to prevent mercury and other PBTs from going into the environment, by giving consumers the information they need to choose products with fewer toxic constituents. Although broken and discarded fluorescent lamps are an important factor in widespread mercury contamination of the environment, INFORM found little or no information available from vendors on the amount of mercury contained in their products. *Shedding Light on Mercury in Fluorescents* provides the mercury content of numerous types and models of mercury-containing lamps, as well as recommended

contract language (developed by INFORM) for government agencies, schools, hospitals, and businesses wishing to give preference to vendors offering low-mercury models.

"Since the majority of fluorescents are used in government and other institutional buildings," Lory explains, "it can make a real difference in the amount of mercury entering the environment if these purchasers start specifying low-mercury alternatives." (Philips Lighting offers the lowest-mercury lamps on the market.) *Shedding Light on Mercury in Fluorescents* can help individuals and organizations change their purchasing practices to favor less toxic alternatives. This, in turn, will influence manufacturers, giving them a strong incentive to make more low-mercury and mercury-free lighting options available to the public at large. In the coming year, INFORM will continue to track advances in lighting and other green building products and to hold workshops and briefings on these developments for government and business. ❖

For more on this subject, go to http://www.informinc.org/mercury_lighting.php, or see the publications list on page 7.

Garbage Truck Workshops *(continued from page 1)*

out California and the US. INFORM found that these vehicles—more than 179,000 nationwide—are 90% diesel-fueled, and their emissions contain large quantities of smog-forming compounds, toxic chemicals, and particulate matter, which is a major factor in increased rates of asthma and other respiratory problems, especially among children. Garbage trucks also use more fuel and are less fuel efficient than any other type of vehicle. In 2000, these problems led California's South Coast Air Quality Management District (SCAQMD) to require all public garbage truck fleets (as well as private fleets with 15 or more vehicles) to convert to cleaner-burning, low-emission alternatives to conventional diesel.

The Greening Garbage Truck workshops, organized by INFORM and the San Joaquin Valley Cities Coalition, Operation Clean Air, and Valley Clean Air Now, were especially timely in light of the recent implementation by California's Air Resources Board (CARB) of the nation's first statewide rules to reduce emissions from diesel-fueled commercial and residential solid waste and recycling collection vehicles. These regulations are expected to be finalized soon, so refuse haulers are scrambling to make sense of the complicated requirements and assess their fuel and technology options.

The most promising option is natural gas-fueled garbage trucks, which are up to 94% cleaner (and up to 98% quieter) than their diesel-fueled counterparts. In 2002, INFORM found almost 700 natural gas trucks in 26 US fleets. Now, owing largely to the pioneering mandates adopted by SCAQMD four years ago, more than 80% of nearly 1,500 natural gas refuse trucks on US roads are operating in California.



Sean Edgar, Director of Regulatory Affairs, California Refuse Removal Council, gave the opening remarks on the challenges facing the refuse truck sector.



Jim Cannon, Senior Energy Fellow, INFORM, spoke about alternative fuel use in garbage trucks.

More Fleets Join the California Bandwagon

California's new state emission reduction rules will require most diesel trucks to be either retrofitted with cleaner diesel technologies or replaced altogether. Fleet operators in the state are now facing a choice between the retrofit technologies, which are largely untested, and fully commercial natural gas trucks that already meet the new requirements and have been on the roads for years, but cost more. Not surprisingly, many refuse haulers are taking a fresh look at natural gas.

Federal, state, and local regulations affecting refuse fleets were among the topics discussed at INFORM's spring workshops, with representatives of the CARB and the San Joaquin Valley Air Pollution Control District on hand to explain the implications of the new state rules. Over 120 attended, including representatives from 25 public

and private refuse fleets, elected officials, fuel and equipment suppliers, and a variety of industry and government stakeholders in clean vehicle projects. In the wake of the workshops, three San Joaquin Valley fleets are now considering joining eight other cities in the region that have already begun shifting their garbage trucks to natural gas.

Supreme Court Deals a Blow

Clean fuels are gaining momentum in the San Joaquin Valley even as they are being dealt a potentially severe blow by a Supreme Court decision, announced this spring, that puts the South Coast Air Quality Management District's rules applying to private refuse fleets in jeopardy. Settling a lawsuit originally filed against the SCAQMD in 2000, the court agreed with the Engine Manufacturers Association, the Western States Petroleum Association, and the Bush administration that the air district's

private fleet rules represented an illegal attempt to set its own emission standards. The basis for the decision was the Clean Air Act, which reserves authority for regulating emissions from mobile sources (i.e., vehicles) to the states and the US Environmental Protection Agency (EPA).

While the SCAQMD sees no challenge to its rules governing public fleets, it has asked the EPA for permission to continue regulating private fleets as well. Meanwhile, local agencies in California and across the US that were considering passing their own fleet rules are assessing alternatives. If nothing else, says Barry Wallerstein, executive officer of the South Coast Air Quality Management District, “[the] decision ups the ante for California and the federal government to do their part in reducing mobile source emissions.” In the face of increasingly serious air quality challenges, the pressure is now on state and federal regulators to achieve federally mandated clean air standards despite resistance from the oil and auto industries to regulations developed to address them.

Meanwhile, companies developing green fuels and equipment continue to improve the technology and pursue new markets through outreach events such as INFORM’s workshops. With similar events now planned for Albuquerque, New York City, and San Rafael, California, news of the clean fuel options available for refuse and other highly polluting fleets is spreading. There is real hope that, even as regulations falter, the industry may rise to the challenge of greening its garbage trucks. ❖

For more on this subject, go to <http://www.informinc.org/ggt.php> or see the publications list on page 7.

Meet Our Interns

This summer, INFORM received invaluable assistance from two interns (pictured below). **Christina Stanton** is a candidate for a Masters in Public Administration at Columbia University’s School of International and Public Affairs. Her interest in the environment has brought her to the mountains of Nepal and to a position with the New York office of the Development Bank of Japan, where she wrote reports on Superfund remediation and greenhouse gas trading, among other topics. At INFORM, Christina helped with our New York City garbage truck initiative (see page 8), contributing to presentations on the benefits of natural gas fleets and compiling survey data from commercial carters on their refuse and recycling vehicles. After graduation, Christina hopes to work in the field of climate change policy, earn a PhD, and eventually teach environmental policy.

Mathew Kilivris will begin his senior year this fall as an environmental studies major at Bard College in Annandale-on-Hudson, New York, and was a participant over the summer in Bard’s Globalization and International Affairs program. At INFORM, Mat helped organize another “Greening Garbage Truck” workshop in California (see story on page 1) and contributed to ongoing research in natural gas transit bus and garbage truck fleets. After graduation, he is considering a career in environmental law, public policy, or consulting/engineering. Mat has been committed to the ideals of the environmental movement since childhood, which he says consist of “modesty, concern for the present and future collective good, respect for one’s surroundings, and perspective on the place of humans in the world.”



New VP to Head Up Programs at INFORM

Joining INFORM this year as vice president of programs, Laurie A. Rich will oversee all research, publications, communications, and media activities for INFORM. Rich is a highly experienced legal and business professional with extensive expertise on environmental issues as well as a history of success in bringing about growth at both new and established companies. Most recently, she was in charge of communications and marketing at two start-up companies, and she has worked for 16 years as a business strategy and communications consultant for corporations large and small. Rich also created and ran her own small press, publishing books on women's health care issues. She graduated *magna cum laude* from Brandeis University and earned her law degree from Northeastern University. Admitted to practice law in the state of New York, Rich left active practice in the early 1980s to return to publishing and environmental research. We asked her to share her thoughts about INFORM and her new position.

When did you first become interested in environmental issues?

In college, I became interested in why methanol had been used by Germany in World War II to run its tanks and other military vehicles when diesel and gasoline became scarce, but had never been developed by the US for these and other purposes. I ended up doing my honors thesis on the politics and sociology of methanol as an alternative energy source. That led to my being hired by the Environment Information Center to put together the first comprehensive directories of environmental officials in the US. I began writing freelance articles on environmental topics while I was there, and discovered that I loved to do research and write about the environment.



Laurie Rich, vice president of programs

What brought you to INFORM?

When I was the environment editor at *Chemical Week* in the 1980s, I received a copy of INFORM's first report on pollution prevention in the chemical industry. I was intrigued and impressed by the research, which showed that preventing industrial wastes at their source could benefit the environment and also businesses' bottom line. I ended up interviewing INFORM's president, Joanna Underwood, and the authors of that groundbreaking report, called *Cutting Chemical Wastes*. The article became a cover story, and I've been keeping track of INFORM ever since. Being at INFORM now brings me back full circle to my environmental research, writing, and organizing roots.

What professional experiences have prepared you for your current position?

Actually, everything I've done professionally is helping me at INFORM! As a law student at the New York State Attorney General's Office, the first environmental protection case I worked on was Love Canal. Then, I worked for five years at *Chemical Week* reporting on environmental issues, trends, technology, laws, and regulations, and for seven years as an editor at an environmental consulting firm. But I think my work in communications and business

development may be especially relevant to what I hope to accomplish at INFORM. As vice president of communications and marketing, I took ENOX Technologies, Inc.—a pollution prevention company whose technology reduced nitrogen oxide emissions from natural gas compressor station engines by over 90%—from start-up to successful sale. I expect all these experiences to help me work with staff to increase INFORM's effectiveness as an organization and raise its public profile.

What opportunities do you see for INFORM over the short term?

Ever since its founding, INFORM's work has significantly influenced public policy, been used by other environmental organizations as background and basis for their own work, and has informed the discussion on a wide array of key environmental and human health issues. From indoor air quality to sustainable transportation to our current work with the Basel Convention on wireless waste, INFORM has been at the cutting edge of environmental research and outreach. The opportunities as we move forward during a critical—perhaps pivotal—period in global environmental health and progress are huge. And the opportunity for INFORM to reach a new level of public visibility and impact rides with those opportunities.

What do you hope to accomplish at INFORM?

I feel privileged to be able to work with Joanna Underwood and INFORM's staff to help make INFORM a household word—that is, to bring the organization to greater public prominence and, in so doing, to help secure greatly increased support for its work, which is so crucial to the health and well-being of the public and the environment. ❖

Selected Staff Speaking Engagements

Sat. & Sun., Sept. 18 & 19

This year, INFORM is a co-host of the 2nd Annual Alt Wheels Festival at the Larz Anderson Transportation Museum, 15 Newton St., Brookline, Mass. This event is a great opportunity to see, experience, and discuss some of the most innovative and futuristic means of transport available in the world today, from taxi rickshaws and the Segway scooter to fuel cell vehicles and the "motorized flights of fancy" known as ArtCars.

See <http://www.altwheels.org/index.html> for more information.

Tues., October 12

INFORM Green Buildings Specialist Cameron S. Lory will speak on reducing mercury and other persistent toxic chemicals in building supplies at "Green and Clean," the 4th Annual Empire Energy and Environmental Exposition, sponsored by the Environmental Business Association of New York State, Inc., at the Gideon Putnam Hotel and Conference Center, Saratoga Springs, NY.

See <http://www.eba-nys.org/Events/2004/e4/e4.htm> for more information.

Mon., October 18

INFORM President Joanna Underwood will discuss ethics and the environment at the Osborn Retirement Home, 101 Theall Road, Rye, NY, at 8 PM. Call 914-925-8200 for directions.

Thurs., November 16

INFORM President Joanna Underwood will speak on alternative energy sources for vehicles at the Darien, Connecticut, chapter of the Garden Clubs of America, Darien Town Hall, 2 Renshaw Rd., at 10 AM.

Save the Date!



Wed., December 1, 2004

INFORM's 1st Annual Green Holidays
Reception and Silent Auction

The Lotos Club, New York City

INFORM PUBLICATIONS

📖 **Shedding Light on Mercury in Fluorescents:**
A Workbook for Design Professionals
©2004 by INFORM 39 pp. \$20

📖 **Calling all Cell Phones:** Collection,
Reuse, and Recycling Programs in the US
ISBN: 0918780799 2004 48 pp. \$30

📖 **Greening Garbage Trucks:** New
Technologies for Cleaner Air
ISBN: 0918780802 2003 106 pp. \$30

📖 **Cleaning For Health:** Products and Practices
for a Safer Indoor Environment
ISBN: 0918780799 2002 85 pp. \$30

📖 **Waste in the Wireless World:**
The Challenge of Cell Phones
ISBN: 0918780780 2002 109 pp. \$30

📖 **Expanding the Public's Right to Know:**
Materials Accounting Data as a Tool for Promoting
Environmental Justice and Pollution Prevention
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📖 **Leasing:** A Step Toward Producer
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📖 **Driving Clean Transportation — LEV II:**
A Policy That Works (A Case Study of NY State)
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📖 **Green Transportation for New Jersey:** The
Promise of Clean Fuels
ISBN: 0918780756 2000 90 pp. \$30

📖 **Bus Futures:** New Technologies for
Cleaner Cities
ISBN: 0918780748 2000 76 pp. \$30

📖 **Clean Transportation for New York:**
A Long Road Ahead
ISBN: 0918780721 2000 42 pp. \$30

📖 **Extended Producer Responsibility:**
A Materials Policy for the 21st Century
ISBN: 091878073X 2000 290 pp. \$30

📖 **Waste at Work:** Prevention Strategies for
the Bottom Line
ISBN: 0918780713 1999 110 pp. \$30

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Working for Healthy Cities

INFORM Targets Commercial Garbage Fleets for Pollution Reduction

Every year in New York, diesel-fueled commercial refuse trucks log almost 14 million miles on city streets, releasing clouds of pollutants into the neighborhoods they serve (for more on this pollution, see story on page 1). At any given time, five to seven of these trucks are queued up at each of the city's waste transfer stations, where garbage is dumped to await shipment out of state. As the trucks wait, their engines idle, producing emissions in even larger amounts. Of the city's 69 transfer stations, 43 are clustered in four low-income neighborhoods in the Bronx, Brooklyn, and Queens.

In July, a gathering of private refuse haulers, government officials, and environmental justice groups kicked off a two-year INFORM initiative that aims to redress this dangerous air quality burden by promoting the con-

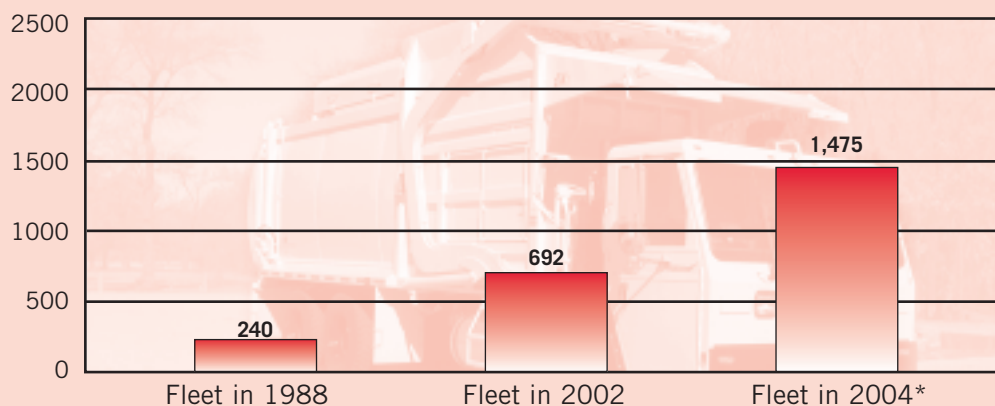
version of commercial fleets to cleaner alternative fuels. Says Juliet Burdelski, co-director of the project: "In New York City, emissions from diesel-fueled garbage trucks contribute to smog and to asthma rates that are among the highest in the nation, especially among children. With this initiative, we're going to ensure that commercial refuse carters and fleet managers interested in switching to natural gas or other alternative fuel and engine technologies have the technical and strategic support they need."

First on the project agenda is compiling a database on commercial refuse truck operations in New York, including estimates of the emissions generated by existing diesel fleets—which, INFORM finds, comprise nearly 1,500 trucks—and the reductions in emissions projected for fleets running

on natural gas. Then, based on this summer's initial meeting of interested stakeholders, INFORM will organize a multisectoral leadership group to develop recommendations for the city and private fleet operators. "From INFORM's research for its 2003 report, *Greening Garbage Trucks*, we know that natural gas-fueled refuse trucks are more than 90% cleaner and quieter than diesel trucks," Burdelski explains. "Now we've found that over 1,475 of these trucks are operating in 42 cities throughout the US (see graph), and more fleets are shifting to natural gas all the time. Financial resources are available to promote fleet conversions, and with the help of our strategic partners, we hope to get the transition under way in New York City with several pilot fleets in the commercial sector."

Natural Gas Vehicle Use is Growing

Estimated 2004 Natural Gas Garbage Trucks



More than 42 cities across the US have 1,475 natural gas vehicles, up significantly from 2002

*According to the South Coast Air Quality Management District, 566 more trucks have been ordered but not yet delivered.

Promoting Sustainable Products

A Conversation on Manufacturer Responsibility

Prospects for extended producer responsibility (EPR) in the United States were the subject of an Earth Day event at New York University this spring, where INFORM Senior Fellow Bette Fishbein shared her insights on developments at home and abroad. A leading expert on the policy that gives manufacturers financial responsibility for their products after consumers discard them, Fishbein shared the stage with fellow panelists Allen Hershkowitz, senior scientist at Natural Resources Defense Council, and William Colton, who represents several Brooklyn neighborhoods in the New York State Assembly.

In addition to relieving municipalities of the costs of managing waste products, EPR creates an incentive for manufacturers to make their products more reusable and recyclable. In Asia and the European Union, laws have been passed requiring EPR for specific types of products—from packaging to computers to washing machines to automobiles—but Fishbein noted that in the US, EPR has mostly been limited to voluntary programs undertaken by individual manufacturers or groups of manufacturers. “For example,” Fishbein explained, “the battery industry decided to form the Rechargeable Battery Recycling Corp., or RBRC, when a number of states passed legislation requiring manufacturers to take back used rechargeables, which are highly toxic.” But this program has had disappointing results. “Less than 20% of rechargeables are being recycled,” said Fishbein, “far below the RBRC’s own goal of 70%. Unlike EPR programs abroad, the RBRC is not required to meet any recycling targets or monitor its own effectiveness.”

Assemblyman Colton agreed that the threat of legislation can sometimes induce voluntary action. The sponsor of an electronics recycling bill that became law last year, he recounted how a number of cell phone manufacturers approached him when the bill was being considered, claiming they had instituted a voluntary collection program. Noting that these retailers could not tell him how consumers were learning about the program or what stores were participating, Colton said that “voluntary programs will fall by the wayside without targets and timelines.” A longtime supporter of EPR, Colton has since introduced a second bill with stricter regulations, which is currently in committee.

Protecting the Global Environment

Partnership for Change

INFORM’s research on the risks posed by mounting volumes of electronic waste has received widespread attention around the world. Especially notable is the contribution of our 2002 report, *Waste in the Wireless World: The Challenge of Cell Phones*, to an international initiative seeking to identify innovative approaches to managing these products at end of life. In describing the reasons for targeting cell phones, organizers of the project cited data from INFORM’s report on the ubiquity and toxicity of cell phone waste.

Waste in the Wireless World predicted that, by 2005, over 130 million cell phones would be retired annually in the US alone, creating a stockpile of 500 million used phones waiting to enter the waste stream. And since these products contain many toxic and long-lived substances, such as lead and brominated flame retardants, they pose a significant threat to public health and the environment after incineration or disposal in landfills.

The Mobile Phone Partnership Initiative (MPPI) is an undertaking of the Basel Convention, a treaty signed by 158 countries that aims to reduce the generation of hazardous wastes and minimize their shipment to the developing world for disposal or recycling. Bringing together leading cell phone manufacturers and representatives from more than 10 nations (including the US), it is the first international, voluntary, public/private initiative addressing a specific product in the waste stream. One project, led by the EPA’s Office of Solid Waste, focuses on promoting sustainable cell phone design and includes INFORM Senior Fellow Bette Fishbein among its participants. The author of *Waste in the Wireless World* and one of the first to recognize the looming waste challenge presented by cell phones, Fishbein is working with manufacturers, recyclers, trade associations, and academics to develop recommendations for the design of “greener” phones. “Ultimately,” she explains, “we want to see products that ‘close the materials loop,’ meaning they’re designed so that once they do become waste, they can be used as raw materials in the manufacture of new products. That may seem like a distant goal, but relatively simple changes in design and manufacture are available now that can bring environmentally sustainable cell phones closer to reality.”

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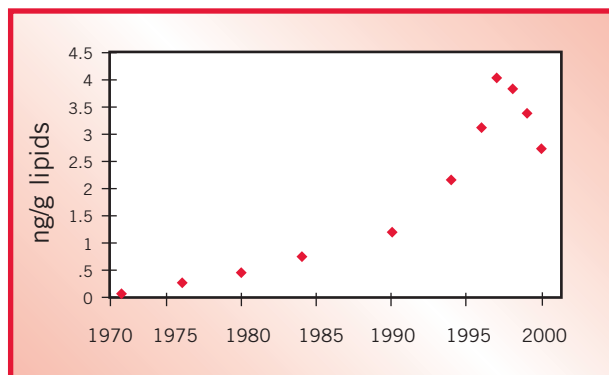
INFORMaTion Toxic Flame Retardants: Time to Worry?

In 1999, alarm bells sounded when a study in the *Journal of Toxicology and Environmental Health* reported that concentrations of chemicals called polybrominated diphenyl ethers, or PBDEs, in the breast milk of Swedish women had increased 50-fold between 1972 and 1997. PBDEs are widely used flame retardants added to the plastics in electronic equipment and to furniture, construction materials, and textiles to reduce the risk of fire. While the health effects of PBDEs are not yet well understood, research suggests that they may affect hormone function and be toxic to the developing brain. In response to this worrisome but still limited evidence, the Swedish government mandated that PBDEs be phased out of manufacturing. Voluntary agreements throughout Europe have also reduced their use, and the European Union has banned two especially toxic PBDEs. Since Sweden took

action, researchers have documented a slight decline in PBDE levels in Swedish breast milk (see graph). These European initiatives exemplify what is known as the “precautionary principle”—the idea that restrictions on the use of a potentially hazardous chemical are warranted to protect the public, even if all the risks it poses have not yet been fully established scientifically. In the US, in

contrast, toxic chemicals are “innocent until proven guilty,” meaning that a substance in commercial use cannot be removed without meeting the very high burden of proof that it poses an “unreasonable” risk to humans and the environment. When is the right time to worry? As the discussion of sustainability plans in this issue’s Letter from the President suggests, more and more Americans are favoring preventive action to protect the public—before the damage that *can be done has been done*.

PBDE Concentrations in Human Breast Milk, Sweden, 1972-2000



Source: “Polybrominated Diphenyl Ethers In Swedish Human Milk: The Follow-Up Study,” Second International Workshop on Brominated Flame Retardants, May 2001.