



World Ecology Report

Critical Issues in Health and the Environment

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Spring 2002

Vol. XIV, No. 1

\$15.00

Available in:
Arabic, English, Russian,
Spanish and Ukrainian

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"The urgent need for energy security in a rapidly changing world cannot be met with yesterday's solutions. ...New technologies, not false promises of producing MORE oil from domestic sources, can secure our energy independence."

National Environmental
Trust, 2002



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SPECIAL FOCUS

"With Every Breath You Take"

• **Conventional Wisdom**

For years scientists and medical researchers have believed that air pollution can exacerbate a host of diseases to include heart disease, asthma and lung cancer. For years Americans have tended to believe that the air we breathe has become significantly cleaner.

While both of these beliefs are true, there is some new and very bad news for Americans to consider as they breathe the air around them.

• **Sobering News**

First, now there is new confirmatory evidence that air pollution cannot only make certain disease states worse, but that dirty air may actually cause certain diseases as well as lead to deaths from them. That's the sobering finding from the largest, most definitive air pollution study to date, published in the March 6, 2002 edition of the *Journal of the American Medical Association*.

While some of this study doesn't report anything new it's, nonetheless, being regarded as particularly important since the study design addresses the criticisms of past air pollution studies, particularly the concern about the lack of follow up and tracking over time.

The study directed by George D. Thurston, Sc.D., associate professor, Environmental Medicine, New York University School of Medicine, relied on American Cancer Society data from a large ongoing study of more than 1 million Americans. Thurston and his team focused on the death records of 500,000 of those adults followed between 1982 and 1998.

Thurston's group, which included researchers from the University of Ottawa (Canada), used a highly advanced statistical model to eliminate unrelated risk factors that could bias results. Independent variables like age, weight, diet, smoking habits, race, sex and nationality were controlled and the groups were separated by disease...cardiopulmonary, lung cancer, and all others. The mortality rates of each disease group were then matched against air pollution (specifically, smaller particulate matter) in 51 urban areas across the United States.

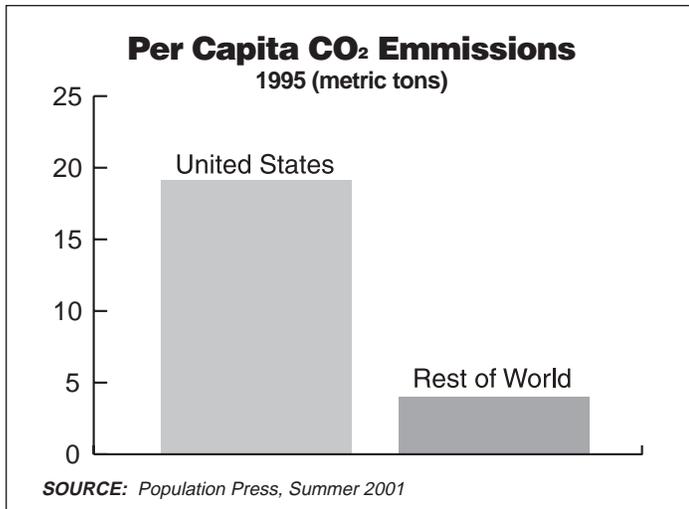
The results were sobering. For every 10 microgram elevation in "fine particulate matter", the real risk for all death increased by as much as 4%. Deaths from cardiopulmonary disease went up 6%, while deaths from lung cancer rose a dramatic 8%!

The study indicates that living in a US city can increase a person's chances of dying from lung cancer or heart disease. Living in an American urban area exposes people to the fine particulate matter that is absorbed into a person's lungs increasing the risk of both cardiopulmonary disease and cancer. Dr. Thurston indicates that often the risks from air pollution can be clinically as high as those for someone who is exposed to a lifetime of



Global energy use, which is closely correlated with population growth, will significantly increase in this century.

SOURCE: *Popular Science*, April 2002



secondhand smoke. In the most polluted US cities, for example, lung cancer deaths were 20% higher than in clean cities!

Are we losing the fight for clean air?

As frightening as these statistics are, Dr. Thurston emphasizes that city air is cleaner today than when studies began back in the early 1970's. That's related, in part, to improved safety limits on air pollutants. The Environmental Protection Agency (EPA) emphasizes that levels of fine particulate matter should not exceed 15 micrograms per cubic meter. The chart below shows fine particulate matter levels for selected cities in 1999 vs. readings taken in earlier years.

	Earlier Years	1999	% Reduction
New York City	24 MCGs	16 MCGs	33.4%
Chicago	25 MCGs	18 MCGs	21.7%
Los Angeles	27 MCGs	20 MCGs	25.9%
Washington, DC	26 MCGs	15 MCGs	42.3%

These trends would suggest that the cleanliness of American's air is improving pretty dramatically. Unfortunately, the most recent annual report from the highly regarded American Lung Association paints a very different picture.

State of Air 2000 and 2001

Americans closed the 1990s with a great sense of expectation. We have seen advances all around us—medical discoveries, technological innovations—so it's only natural for us to expect progress in efforts to clean up the air that we breathe. But the American Lung Association has found, through a careful analysis of environmental data, that we are not yet winning the fight to clean air. In fact, the American Lung Association's *State of the Air 2001* finds some very disturbing trends in air quality.

Last year, the American Lung Association initiated its *State of the Air* annual assessment to provide citizens with easy-to-understand air pollution summaries of the quality of the air in their communities that are based on concrete data and

sound science. Air quality in counties is assigned a grade ranging from "A" through "F" based on how often their air pollution levels exceed the "unhealthful" categories of the U.S. Environmental Protection Agency's Air Quality Index for ground-level ozone (smog) pollution. The Air Quality Index is, in turn, based on the national air quality standards. The air quality standard for ozone used as the basis for this report, 80 parts per billion averaged over an eight-hour period, was adopted by the EPA in 1997 based on the most recent health effects information.

State of the Air 2000 confirmed that air pollution remains a major threat to Americans, contributing substantially to the nation's ill health burden. *State of the Air 2001* finds that since last year's report, many more people are breathing in unhealthy air:

- The number of Americans living in areas that received an "F" in the report increased by more than 9 million compared with last year's report—from 132 million to more than 141 million. This figure represents approximately 75 percent of the nation's population who live in counties where there are ozone monitors.
- More than 30 million children under age 14—whose lungs are particularly vulnerable to the effects of ozone-filled air—are living in counties that received an "F" in air quality. That's 1.6 million more children who live in areas with "failing" air quality than last year.
- More than 17 million Americans over age 65—another group at particular risk of suffering health problems from dirty air—live in areas that received an "F". That's over one million more elderly at risk than last year.
- 3.6 million adults with asthma, and 1.9 million children with asthma, live in counties that received an "F" rating.
- The number of U.S. counties that received an "F" in air quality jumped 15 percent from last year—from 333 to 382 counties. That means that more than half of the counties (58%) where there are ozone monitors received a failing grade.
- The total number of high ozone days in the "F" range jumped 25.3 percent in monitored counties.
- *State of the Air 2001* found that according to the Environmental Protection Agency's Air Quality Index, there were a total of 12,805 "Orange" (unhealthy for sensitive groups) days in counties being monitored for ozone in 1997 to 1999—a jump of 25% from the *State of the Air 2000* report. The number of "Red" (unhealthy) days rose 11% during the same period. "Purple" (very unhealthy) days decreased slightly, from 219 in the 2000 report to 209 in this year's report.

Health Effects

The stakes are high: scientists have estimated that the number of deaths in the United States associated with air pollution range from 50,000 to 100,000 per year. While particulate matter is the form of air pollution most prominently linked to premature death, there is increasing evidence that ozone pollution may also have a role in this most serious of health outcomes. A study of air pollution

"When you can't breathe, nothing else matters."

American Lung Association

and daily mortality in London between 1987 and 1992 found that same-day ozone levels were associated with a significant increase in mortality due to all causes, and with cardiovascular and respiratory deaths in particular. The effects were independent of the effects of other pollutants. And a study conducted in Amsterdam found a link between a day's ozone levels and the death rate two days later.

For every 75 deaths per year due to air pollution, health scientists have estimated that there are 265 hospital admissions for asthma and 240 non-asthma respiratory admissions, 3,500 respiratory emergency doctor visits, 180,000 asthma attacks, 930,000 restricted activity days, and 2,000,000 acute respiratory symptom days.

The American Lung Association *State of the Air* reports focus on ozone, one of the most dangerous of the common air pollutants. As the ALA report proves, ozone plagues many areas of the country and many U.S. cities, both large and small. As of 1998, 92.5 million Americans still lived in areas classified as not meeting the earlier one-hour national ozone standard of 0.12 parts per million.

The Lung Association also chose to focus on ozone because there is better historical data on ozone levels compared with some of the other common air pollutants, which makes it easier to observe trends over time. Although ozone levels can fluctuate from year to year due to meteorological conditions, lack of a downward trend over several years in a given geographical area can be an indication that neither the government nor polluting companies are making a concerted effort to reduce pollution.

Children at Risk. A number of recent studies have added to the evidence that children are especially vulnerable to the harmful effects of ozone. Children spend significantly more time outdoors, especially in the summertime when ozone levels are the highest. Children also spend more time engaged in exercise, and such activity results in breathing in more air, and therefore more pollution being taken deep into the lungs.

The Elderly. As we age, our breathing ability diminishes over time. So even the healthy elderly are at increased risk from exposure to ozone and other air pollutants, which can further reduce their lung function. Ozone air pollution also increases susceptibility to influenza, pneumonia and other infections, which are specially dangerous for the elderly. A study of the relationship between daily death rates in the elderly, outdoor air temperatures and ozone levels in Belgium confirms the deadly potential of ozone for senior citizens.

The study demonstrated a statistical association between daily mortality in the elderly and ambient ozone concentration during the hot summer of 1994. In addition, ozone can significantly worsen the condition of people with chronic bronchitis and emphysema, and since most of these diseases

occur in the elderly population, these elderly are at special risk for exposure to ozone.

Control Strategies

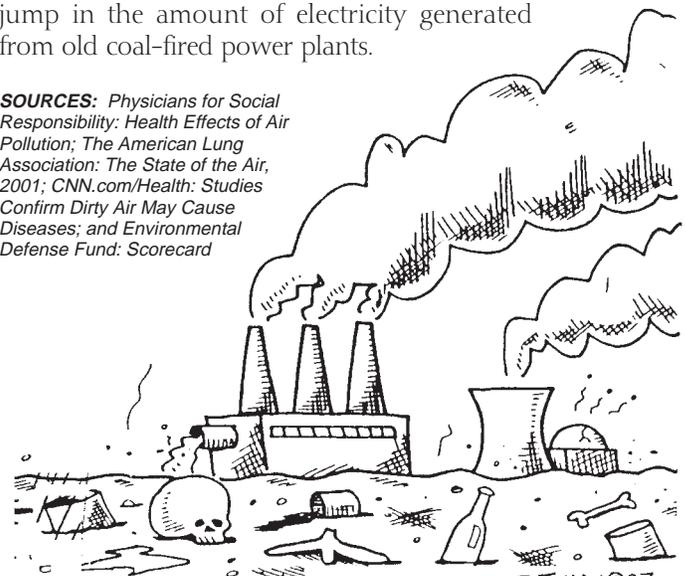
New Diesel Regulations. In January 2001, the Environmental Protection Agency issued new regulations that will help millions of Americans, especially children with asthma, breathe easier. The regulations significantly limit tailpipe emissions from heavy-duty diesel vehicles.

The new rule will cap sulfur levels in diesel fuel at 15 parts per million (ppm) and impose tough new emissions standards on all heavy-duty vehicles. This will result in a more than 90 percent reduction in emissions of harmful pollutants like particulate matter (PM) and nitrogen oxides (NOx). Particulate matter has been linked to premature death and worsening asthma, and nitrogen oxides are a principal component of ozone smog.

Power Plants. No other single source of pollution poses so much danger to health and the environment as do coal-burning power plants. The damage continues to mount as the emissions of nitrogen oxides and sulfur dioxide have increased and the emissions of mercury, a toxic contaminant, and carbon dioxide, the foremost pollutant linked to global climate change, have continued unabated. Since 1970, the Clean Air Act has exempted the oldest, dirtiest coal-burning power plants from complying with modern emissions standards. As a result, these older power plants are permitted to emit as much as 10 times more nitrogen oxides and sulfur dioxide as that of modern coal plants. Even worse, the entire industry is currently allowed to emit unlimited amounts of mercury and carbon dioxide. Power plants are the only unregulated source of toxic mercury air emissions.

This loophole in the Clean Air Act is now allowing power companies using these older facilities with outdated pollution controls to gain a competitive cost advantage over their competitors who are more environmentally friendly. As a result, the power industry is relying on these old plants more than ever: between 1992 and 1998, there was a 15.8% jump in the amount of electricity generated from old coal-fired power plants.

SOURCES: Physicians for Social Responsibility: *Health Effects of Air Pollution*; The American Lung Association: *The State of the Air, 2001*; CNN.com/Health: *Studies Confirm Dirty Air May Cause Diseases*; and Environmental Defense Fund: *Scorecard*



SOURCE: Earth Action, May 1997

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DID YOU KNOW?

■ The world's top 10 coral reef hotspots, areas rich in marine species found only in small areas and therefore highly vulnerable to extinction, are identified for the first time in a study published in the February 15 issue of the international journal, *Science*. Based on new research that for the first time compares the range of certain key species with known threats to coral reefs from human impacts, the paper is the first of its kind to identify global priority areas for coral reef

conservation. Furthermore, it contradicts a long-held contention that marine species are unlikely to become extinct as a consequence of human activities because of their vast geographic ranges in the oceans. The 10 coral reef hotspots, ranked according to the degree of threat, are: 1) Philippines; 2) Gulf of Guinea Islands; 3) Sunda Islands (Indonesia); 4) Southern Mascarene Islands (near Madagascar); 5) Eastern South Africa; 6) Northern Indian Ocean; 7) Southern Japan, Taiwan and southern China; 8) Cape Verde Islands; 9) Western Caribbean; 10) Red Sea and Gulf of Aden. The study identified a total of 18 areas with the greatest concentrations of species found nowhere else, and determined the hotspots category based on threats. Eight of the 10 coral reef hotspots are adjacent to a terrestrial biodiversity hotspot, those regions of the world that harbor the highest concentrations of species on land and are also at the greatest risk. 58% of the world's reefs are reported as threatened by human activities. A quarter of the world's coral reefs have already been destroyed or severely degraded through global warming, according to the paper. Reef degradation in the hotspots could cost some of the world's poorest people an important source of nutrition, and in many cases their livelihoods. The *UNEP-WCMC World Atlas of Coral Reefs* (published September 2001), provides the most detailed assessment to date of coral reefs.

SOURCES: <http://www.unep-wcmc.org>. ;UNEP News Release 2002/10, Paris, February 14, 2002

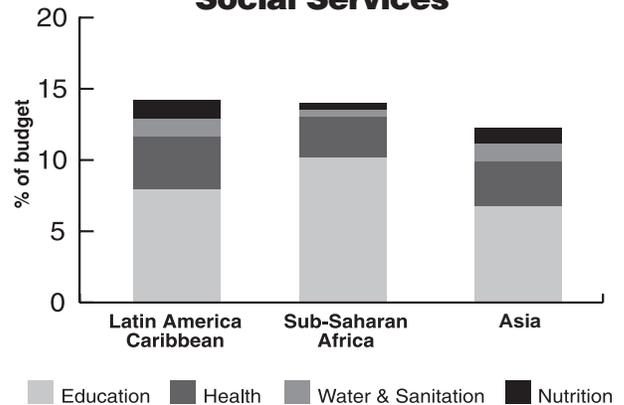
■ An investigation by an international coalition of environmental organizations reveals that huge quantities of hazardous electronic wastes (E-wastes) are being exported to China, Pakistan and India where they are processed in operations that are extremely harmful to human health and the environment. The organizations—Basel Action Network (BAN) and Silicon Valley Toxics Coalition (SVTC) with support from Toxics Link India, Greenpeace China and SCOPE (Pakistan)—have released a full report on the investigation entitled, *Exporting Harm: The High-Tech Trashing of Asia*. The investigation uncovered an entire area known as Guiyu

in Guangdong Province, surrounding the Lianjiang River just 4 hours drive northeast of Hong Kong where about 100,000 poor migrant workers are employed breaking apart and processing obsolete computers imported primarily from North America. The workers—including men, women and children—were found to be using 19th century technologies to clean up the wastes from open burning of plastics and wires, riverbank acid works to extract gold, melting and burning of toxic soldered circuit boards and the cracking and dumping of toxic lead laden cathode ray tubes. The investigative team witnessed many tons of the E-waste being dumped along rivers, in open fields and irrigation canals in the rice growing area. The pollution in Guiyu has rendered well water undrinkable, and thus water has to be trucked in from 30 kilometers away for the entire population.

SOURCES: Basel Action Network (BAN) www.ban.org; Silicon Valley Toxics Coalition (SVTC) www.svtc.org

■ In October, hundreds of genetically modified moths were released in cages into an Arizona cotton field under strict security at a US Department of Agriculture facility in Phoenix. The researchers were testing the breeding ability of hundreds of genetically modified pink bollworms. The October bollworm test was in a cage using moths which had been sterilized. The moths had been genetically altered to contain a jellyfish gene, considered harmless, that made them glow green. The glowing gene is a common "marker gene" that tests the moth's ability to mate; any offspring have a glow that's easy to spot. Eventually, the researchers hope to substitute the jellyfish gene with a lethal one, taken from a bacterium, that will kill the moth's larvae. The gene alters the larvae's metabolism to make them reliant on a chemical unavailable in the wild. The hope is that genetically modified moths will compete successfully with fertile moths for mates and will decimate the moth population by producing larvae that can't survive outside a lab. The pink bollworm destroys millions of dollars of cotton crop annually

Most Countries Under-invest in Basic Social Services



SOURCE: World Institute for Development Economics Research, *Wider Angle*, December 2000, No. 2/2000

and has been conventionally controlled by the liberal application of harmful pesticides.

SOURCE: <http://www.wired.com/news/print/0,1294,48774,00.html>

■ In September, 2001, scientists discovered genetically engineered (GE) corn at 15 locations in the state of Oaxaca, deep in southern Mexico, a country that has outlawed the commercial use of all genetically engineered crops. No one knows how the corn got there. In the U.S., genetically engineered corn has been grown commercially since 1996, and 26 percent of all U.S. corn acreage is now genetically engineered. The remote region of Oaxaca is considered the heartland of corn diversity in the world. Scientists had hoped to keep Oaxaca's rich variety of corn uncontaminated by GE strains because Oaxaca retains the wealth of genetic differences developed during 5500 years of indigenous corn cultivation. Scientists now say that aggressive forms of GE corn, let loose in Oaxaca, may drive native species to extinction, causing the loss of irreplaceable cultivars. It is unclear whether the GE corn was carried deep into Mexico by birds, or was intentionally spread there by corporations or governments promoting GE crops.

SOURCE: RACHEL'S ENVIRONMENT & HEALTH NEWS #743, January 31, 2002

■ A unique satellite-based survey of the planet's remaining closed forests, which include virgin, old growth and naturally regenerated woodlands, has found that over 80 per cent are located in just 15 countries. These are: Russia, Canada, Brazil, the United States, the Democratic Republic of the Congo, China, Indonesia, Mexico, Peru, Colombia, Bolivia, Venezuela, India, Australia and Papua New Guinea. Four are in industrialized countries and 11 are in the developing world. Population pressures, one of the key threats to the world's remaining forests, vary between the countries, but overall 88 per cent of the world's remaining closed forests in these key 15 countries have low if non-existent population densities. The report has used satellite-based information to identify the extent and distribution of the World's Remaining Closed Forests (WRCF). These are defined as forests with a canopy closure of more than 40 per cent. Such a level of canopy closure is considered vital if the forest is to perform all its known environmental and ecological functions effectively. Such forests are also home to some of the world's rarest and most unique species, including the elusive cloud leopard of Russia and the lion-tailed macaque of the Western Ghats in India. High population pressures in closed forest areas can be seen in India and China. Countries with forests free from population pressures include Peru, Bolivia the Democratic Republic of the Congo, Papua New Guinea, Brazil, Russia and Canada. Among the 15 key countries identified in the report, Russia has the lowest level of forest protection with just two per cent protected followed by Mexico, 3 per cent; China, 3.6 per cent; the United States, 6.7 per cent; and Canada, 7.4 per cent.

SOURCES: UNEP News Release 2001/93, *An Assessment of the Status of the World's Remaining Closed Forests*, can be downloaded from <http://www.na.unep.net/publications/closedforest.pdf>

Another Toxin in the Environment: PBDE's

A new class of toxic chemicals has been discovered in breast milk, in human blood, in food, in remote rural air, in wild fish, and in the sewage sludge being applied as fertilizer on food crops across the U.S. The newly-discovered contaminants are brominated flame retardants. Bromine is a highly-reactive chemical element, a halogen in the same class as chlorine and iodine. Worldwide, eight chemical corporations manufacture about 300 million pounds of brominated fire retardants each year, of which about 80 million pounds are members of the class known as polybromodiphenyl ethers, or PBDEs.

PBDEs leach into the environment from the plastics in appliances, TVs and computers, foam in upholstery, and the fabrics of carpets and draperies. Many hard styrene plastics and many foam padding materials are 5% to 30% PBDE by weight. Like their cousin PCBs (polychlorinated biphenyls), many PBDEs persist for years in the environment, biomagnify as they accumulate in the food chain, and concentrate in fatty tissues.

A recent survey of the PBDE literature revealed that some PBDEs can cause cancer, interfere with hormones, and disrupt normal growth and development in laboratory animals. Recent studies have shown that these brominated compounds can interfere with the thyroid hormone, which is critical for the proper development of the brain and central nervous system in animals and humans.

PBDEs are now everywhere. European researchers have found PBDEs in freshwater and ocean fish (salmon, herring, sprat), in air at remote rural locations, in sewage sludge, in deep ocean sediments, in eels, seals, shellfish, bottlenose dolphins, porpoises, pilot whales, and crabs, among other species. Based on limited studies, the Great Lakes appear to be among the most PBDE-contaminated bodies of water in the world, with Lake Michigan the worst. Studies in Germany, Holland, Sweden, Japan and the U.S. have reported the presence of PBDEs in fish, meat, cow's milk, fats and oils, and bakery products. Studies of human blood in the U.S. have revealed PBDEs in all samples.

In Sweden, this combination of characteristics triggered precautionary action to remove such chemicals from the market. Denmark and the Netherlands have also taken steps to ban PBDEs. In September, the European Union decided to take precautionary action without waiting for conclusive scientific evidence of harm, voting to ban the use, manufacture, and import of some forms of PBDEs during the next few years.

SOURCE: RACHEL'S ENVIRONMENT & HEALTH NEWS #736: *Here We Go Again: PBDEs*



GOOD NEWS!

Modified Organisms (LMOs). The three year, \$38.4 million, scheme, is seen as a key initiative to aid developing countries in preparing for the entry into force of the Cartagena Protocol on Biosafety which was adopted in January 2000. The Cartagena Protocol, the first legal environmental treaty, attempts to reconcile trade and environmental protection issues. The Protocol is to institutionalize the precautionary approach and establish the advanced informed agreement procedure. This agreement requires those nations exporting LMOs to inform countries who import them so that the receiving country can decide whether or not to accept the shipment. So far, 107 governments have signed the Protocol and 10 countries have ratified it. 50 ratifications are required for its entry into force. The project is being implemented by UNEP as one of the three Implementing Agencies of the Global Environment Facility. The GEF, established in 1991, is a partnership between the United Nations Environment Programme, the United Nations Development Programme and the World Bank Group.

SOURCE: United Nations Environment Programme, Nairobi, 16 January 2002

■ Since 1995, wind-generating capacity has increased 487% globally. During the same period, coal use, declined by 9 percent. One megawatt of wind-generating capacity usually will meet the electricity needs of 350 households in an industrial society, or approximately 1,000 people. The 23,300 megawatts of generating capacity now in place is sufficient to meet the residential electricity needs of about 23 million people. Germany leads the world in wind electric-generating capacity, with 8,000 megawatts, nearly a third of the total. The United States, which launched the modern wind power industry in California in the early 1980s, follows with 4,150 megawatts. Spain is in third place, with 3,300 megawatts. Denmark, which is fourth with 2,500 megawatts, now gets 18 percent of its electricity from wind. Two thirds of the capacity added in 2001 was concentrated in the top three countries: Germany added 1,890 megawatts; the United States, 1,600; and Spain, 1,065. For the United States, this translates into a growth in generating capacity of some 63 percent in 2001. In addition, electricity from wind brings the option of electrolyzing water to produce hydrogen, which can be stored and used to fuel gas-fired turbines in backup power plants

■ UNEP launched a multi-million dollar project promoting bio-safety—to help developing countries assess the potential risks and rewards from genetically engineered crops. The project, financed by the Global Environment Facility (GEF), will help up to 100 countries develop the scientific and legal skills for evaluating the health and environmental issues surrounding imports of so called Living

when wind power ebbs. Over time, hydrogen produced with wind-generated electricity is the leading candidate to replace natural gas in gas-fired power plants as gas reserves are depleted. Hydrogen is also the ideal fuel for the fuel cell engines that every major automobile manufacturer is now working on. In the United States, the 300-megawatt Stateline Wind Project under construction on the border between Oregon and Washington will be the world's largest wind farm. In Europe, offshore projects are now springing up off the coasts of Belgium, Denmark, France, Germany, Ireland, the Netherlands, Scotland, Sweden, and the United Kingdom.

SOURCE: January 8, 2002, Earth Policy Institute 2002, <http://www.earth-policy.org>

■ Cocoa farming in Ghana can empower women, reduce poverty and benefit the environment, according to a study published recently by the Washington-based International Food Policy Research Institute (IFPRI). One of the ways women benefit, the report concludes, is through land acquisition, traditionally denied to women in many parts of West Africa. Through a process known as "gifting," husbands give their wives land rights to cocoa fields in exchange for labor during the early stages of cocoa farming. Cocoa is an important cash crop for small-scale farmers, who produce almost all of the cocoa grown in Ghana. While cocoa plants are young, they can be planted alongside food crops allowing farmers to grow both cocoa and food for their own consumption on the same land. Ghana is the world's second largest producer of cocoa after its neighbor, Cote d'Ivoire.

SOURCE: UN Office for the Coordination Of Humanitarian Affairs (OCHA) Integrated Regional Information Network (IRIN), February 11, 2002

■ The European Union (EU) decided to ratify the Kyoto Protocol. This move contributes to the EU's goal of enabling the Kyoto Protocol to come into force by the World Summit on Sustainable Development in August/September 2002. The decision also makes the EU Member States' greenhouse gas reduction commitments agreed in June 1998 legally binding. At the Second Session of the United Nations Forum on Forests, the EU warned that the need for implementing inter-



Burkina Faso: Empowering women through education

SOURCE: UNDP, Choices, March 2002

national agreements is even more urgent since the recent estimates in the FAO's (UN Food and Agriculture Organization) latest Report on the State of World's Forest show that forest loss and degradation is continuing at a fast rate.

SOURCE: Official e-mail alert service of the European Union at the United Nations, website <http://europa-eu-un.org>

■ Since Mexico began permitting and promoting family planning three decades ago, families across the country are producing fewer offspring. Couples now have an average of 2.3 children, down from seven in the early 1970s, according to census data from the National Population Council. Life expectancy has also climbed to nearly 75, up from 60 in 1974, the government group reports. The National Population Council says that more than 70 per cent of Mexican women use some method of contraception to delay or limit childbearing. Much of the shift can be attributed to Mexico's government making a strong investment in health during the 1950s and 1960s. Little has changed for the millions of Mexicans in impoverished rural areas, where it is still common to see families with 10 children. For them, and for Mexicans who can no longer find work in cities, the escape valve remains the US. Government statistics show that migration to the US reduced the population by more than 300,000 this year alone. Mexico's population of 102m people is still growing, currently at 1.38 per cent a year—down from 3.3 per cent in the early 1970s. Mexico's median age is 25.

SOURCE: *Financial Times* (London); February 23, 2002; <http://news.ft.com>

■ Iran's population growth rate dropped from an all-time high of 3.2 percent in 1986 to 1.2 percent in 2001. Iran's population had doubled from 27 million in 1968 to 55 million in 1988. From 1986 to 2001, Iran's total fertility—the average number of children born to a woman in her lifetime—plummeted from seven to less than three. Strong government support has facilitated Iran's demographic transition to smaller families. Under the current president, Mohammad Khatami, the government covers 80 percent of family planning costs. A comprehensive health network made up of mobile clinics and 15,000 "health houses" provides family planning and health services to four fifths of Iran's rural population. Almost all of these health care centers were established after 1990. Family planning is integrated with primary health care. Rising literacy and a national communications infrastructure facilitate progress in family planning. The literacy rate for adult males increased from 48 percent in 1970 to 84 percent in 2000, nearly doubling in 30 years. Female literacy climbed even faster, rising from less than 25 percent in 1970 to more than 70 percent. By 1996, 70 percent of rural and 93 percent of urban households had televisions, allowing family planning information to be spread widely through the media. As one of 17 countries already facing absolute water scarcity, Iran's decision to curb its rapid population growth has helped alleviate unfolding water shortages exacerbated by the severe drought of the past three years.

SOURCE: *Earth Policy Institute*; <http://www.earth-policy.org>

A New Public Health Treaty

120 countries agreed to eliminate persistent organic pollutants, or POPs, in a United Nations treaty known as the Stockholm Convention, adopted in May 2001. POPs share four characteristics: they are toxic; they resist the normal processes that break down contaminants in the body and the environment; they accumulate in body fat and are passed from mother to fetus in the womb; and they can travel great distances on wind and water currents.

The treaty's main points include:

- Banning 8 POPs pesticides—aldrin, endrin, dieldrin, chlordane, heptachlor, hexachlorobenzene, mirex, and toxaphene—immediately.
- Prohibiting production of PCBs immediately and phasing out their remaining uses over time.
- Limiting DDT use to disease vector control while setting a long-term goal for its total elimination.
- Promoting strong action to minimize the release of industrial by-product POPs like dioxins.
- Employing a precautionary approach for additional POPs. The treaty (a) establishes a scientific POPs Review Committee to evaluate additional chemicals; (b) states that "lack of full scientific certainty shall not prevent" a POP from being included.
- Building the capacity of all countries to eliminate POPs.
- Emphasizing preventive measures to address POPs at their source.

Fifty governments must ratify the treaty for it to enter into force 90 days after the 50th acceptance.

In early 1998, a small number of NGOs founded the International POPs Elimination Network, or IPEN. Throughout the course of the negotiations, this network grew to include more than 300 public health, environmental, consumer, and other non-governmental organizations in 70 countries. The network worked to mobilize grassroots support for a global treaty. It also leveraged the resources and created a forum for NGOs and activists from around the world to participate in the negotiations. IPEN coordinated NGO conferences and workshops at each of the five negotiating sessions in Montreal (June 1998), Nairobi (January 1999), Geneva (September 1999), Bonn (March 2000) and Johannesburg (December 2000). World Information Transfer joins World Wild Life Fund, Physicians for Social Responsibility and our partner organizations in IPEN to praise this treaty for protecting human health by banning persistent organic pollutants.

SOURCE: *International POPs Elimination Network*, <http://www.ipen.org/treaty03.html>

POINT/COUNTERPOINT

Power, Politics, Pollution and Payoffs

INTRODUCTION

During the 2000 presidential campaign, Candidate George Bush promised to require Electric Utilities to reduce emissions of four main pollutants: sulfur dioxide, nitrogen oxide, mercury and carbon dioxide. President Bush abandoned his commitment to reducing carbon dioxide emissions from power plants, claiming that it would be too costly.

Vice President Dick Cheney's national energy task force met during the winter and spring of 2001 and released its National Energy Plan in May. Two of the plan's provisions directly related to Electric Power Plant air pollution. The first instructed the Environmental Protection Agency (EPA), in consultation with the Department of Energy, to conduct a 90-day review of the New Source Review (NSR) provisions of the Clean Air Act of 1970. The second instructed the Attorney General to review litigation filed by the Justice Department against Utilities accused of violating the provisions of the New Source Review.

In mid-January, 2002, U.S. Attorney General John Ashcroft said the lawsuits were justified and may proceed. Environmentalists, however, were skeptical. Still worried about the future of the New Source Review, they pointed out that if the provisions of New Source Review were subsequently weakened it would undercut the prosecution of these lawsuits. For example, Philip Clapp, president of National Environmental Trust said, "No judge is going to mandate that a utility spend millions of dollars to clean up air pollution to comply with rules the administration has repealed."

In June of 2001, the EPA issued a "NSR 90-Day Review Background Paper", but August came and went with no decision or firm recommendation from the EPA or the Bush Administration. It appeared that there was more opposition to the Bush plan to weaken New Source Review than the administration had counted on.

By February it appeared that the Bush administration had backed off any plans to directly eliminate NSR, but instead was presenting a proposal, The Clear Skies Initiative, that—claimed—would make NSR unnecessary.

Groups openly lobbying the Bush administration and Congress to weaken or eliminate the requirements of NSR are representatives of Coal Mining Firms and Electric Utilities as well as politicians such as Senators Breaux (R-LA) and Inhofe (R-OK) and former Montana Governor Marc Racicot, the new head of the Republican National Committee.

Groups fighting to preserve or strengthen NSR are citizen groups such as the Adirondack Mountain Club, environmental groups including the Sierra Club, The Natural Resources Defense Council and finally the Attorney Generals of New York and Connecticut as well as other states in the

northeast United States. Both major and regional newspapers have featured editorials on this subject. Most, including the *New York Times* have been strongly in favor of preserving New Source Review.

What is at stake for these individuals and groups and why are they so concerned about New Source Review?

Clean Air Act and New Source Review

In 1967 Congress passed the Air Quality Act. This was the first piece of federal legislation to control air quality. Three years later the core provisions of this act were strengthened to produce the Clean Air Act of 1970.

National Ambient Air Quality Standards (NAAQS). The Clean Air Act adopted a two pronged approach to improve and protect the nation's air quality. The first program required states to achieve air quality objectives set forth in National Ambient Air Quality Standards (NAAQS). Exposure levels that were considered tolerable for humans and ecosystems were determined and states were required to meet those targets. Every state was expected to set and achieve NAAQS by 1975.

It is important to note some features of this program. If the pollution level in a particular state or area met the NAAQS, polluting sources were not required to reduce emissions even if the means to reduce this pollution were available. A corollary of this is that pollution following prevailing winds from one state to another required more pollution reduction in the downwind state, even if a large part of the pollution was emitted elsewhere. For example, the state of Pennsylvania does not have any power plants in noncompliance, but is among the top three states for deaths attributable to power plant pollution. Facts such as these have resulted in the Attorney Generals and even Electric Utilities in Northeastern states trying to force Midwestern utilities to clean up their power plants.

Performance Standards. The second prong of the Clean Air Act of 1970 required polluting sources to meet emission performance standards based on modern "best practices" in pollution abatement. Congress applied the performance standard to both stationary and mobile sources. Mobile sources (cars, trucks, etc.) were only required to apply new standards to new vehicles. On the other hand the Act required both new and modified stationary sources to meet modern standards. In 1977 when Congress expanded and strengthened the Clean Air Act, the New Source Review program was adopted. All new and modified sources above certain pollution thresholds would be required to minimize their emissions. The level of performance requirement would not be tied to often out of date specifications, but rather case by case determinations of best

Pollutants from Coal-fired power plants and their effects

In the US, electric utilities account for a high percentage of pollution emitted into the air. Utilities continue to rely on fossil fuels, especially coal, which is used to produce approximately 54% of the country's electricity.

Sulfur dioxide

- All power plants contribute 65% of total emitted in US. Older coal-fired plants produce 96% of the power plant total while making up only 56% of US power plant fleet.

Negative effects:

- Breathing problems, permanent lung damage.
- Contributor to acid rain, which damages trees and lakes, and can damage buildings, statues, monuments, etc.
- Contributes to visibility reduction in the eastern US.

Nitrogen Oxide

- All power plants contribute 27% of total emitted in the US. Older coal-fired plants produce 93% of the power plant total while making up only 56% of US power plant fleet.

Negative effects:

- Lung damage, illnesses of breathing passages and lungs. Asthma, especially in children.
- Contributor to acid rain with problems mentioned above.
- Reacts with volatile organic compounds and sunlight to form ground level ozone, or smog.
- Causes over fertilization of water bodies, consuming oxygen and killing marine life. Degrades visibility on a regional scale in national parks and other scenic areas.

Carbon Dioxide

- All power plants contribute 40% of the total emitted in the US. Older coal-fired plants produce 88% of power plant total while making up only 56% of US power plant fleet.

Negative effects:

- Reduces ability of blood to bring oxygen to body cells and tissues.
- Is a "greenhouse" gas that contributes to global warming.

Mercury

- All power plants contribute 34% of the total emitted in the US. Older coal-fired plants produce 99% of the power plant total while making up only 56% of US power plant fleet.

Negative effects:

- Concentration of mercury in fresh water fish.
- Leads to surface water acidification affecting drinking water from reservoirs.
- Causes brain, lung, and kidney damage, as well as reproductive problems.

Over 500 existing power plants are between 30 and 50 years old and are up to 10 times dirtier than power plants being built today. It is primarily these older electric power plants, most coal-fired that are the focus of the New Source Review provision of the Clean Air Act.

performance. Sources in clean areas as well as dirty areas would be required to prevent a worsening of air quality. The Clean Air Act designated the EPA to carry out this program.

New Source Review requires plant owners to upgrade their pollution controls to modern standards whenever they make modifications that extend the life of the plants and significantly increase their emissions.

New Source Review also applies to new power plant construction, however there has been little controversy over its implementation in this area. This may be because expenditures for air pollution control as a percentage of total capital expenditures on new plant construction are significantly lower than those expenditures on existing plants. Pollution control equipment retrofitted to existing units is subject to physical and engineering constraints that add to the cost. In contrast, all necessary pollution control equipment can be built in at the design phase for a new plant.

POINT / COUNTERPOINT

Objections to New Source Review

Formal objections to the provisions of New Source Review have come from Mining firms, groups like the National Coal Council as well as Electric Utilities and their advocates like the Edison Electric Institute and the Electric Reliability Coordinating Council. The objections do not primarily dispute the claims made by the government and environmental groups about the extent or the negative results to human health and the environment of the pollution emitted by power plants. Rather the objections center on economic issues procedural issues, efficiency, and the ability of utilities to generate more electricity.

Following are some of the objections as well as rebuttals by the environmental groups and in some cases the EPA itself.

NSR is too complex, vague and confusing

Firms that are required to comply with the NSR rules have complained that they are too complex and confusing.

Many proponents of NSR as well as the EPA, do not dispute this and agree that clarification is needed in distinctions between routine and non-routine maintenance. They also agree that the permitting process should be streamlined to enable decisions to be made more quickly. However, proponents also argue that many of the "reform" proposals published by EPA over the last decade have created more loopholes so that even fewer grandfathered sources would be required to clean up as they upgrade their equipment. Critics like David Hawkins, of the Natural Resources Defense Council, point out that "the program has not brought down emissions as Congress had intended. ... Grandfathered air pollution sources are more and more the central impediment to clean air progress."

EPA "Changed the Rules" in 1999

Many industry groups including the Edison Electrical Institute have claimed that the lawsuits filed between

November 1999 and December 2000 by the U.S. Department of Justice, acting on behalf of EPA (the states of New York, Connecticut, Vermont and New Jersey plus eleven environmental organizations, also filed lawsuits) changed the rules. What had been permitted as "routine maintenance, repair, and replacement", were now considered to be "modifications" that required NSR permits and compliance. They also claim that Power Plant Owners could not have anticipated these "new" interpretations of the Clean Air Act.

Spokesman for the Edison Electric Institute, the largest utility lobbying group, criticized the Justice Department's action as a "fundamental reinterpretation of NSR which contradicts more than two decades of enforcement."

A U.S. Justice Department brief in February 21, 2001 stated, "EPA's interpretation and application of the modification rule and routine activity exception to TVA's projects are wholly consistent with past agency official positions and practice." (The Tennessee Valley Authority was one of the power producers sued by the EPA in 1999).

It appears that the enforcement lawsuits initiated in 1999 were the result not of a change in policy, but rather because of the failure of electric utilities to obey the NSR provisions of the Clean Air Act. What was described as "routine maintenance" by the utilities was in fact multi-million dollar service life extension improvements. These improvements not only should have triggered the provisions of New Source Review, but also clearly conflicted with one of the intents of the legislation, which was to allow the retirement of old heavily polluting facilities to allow their replacement by newer clean technology plants.

NSR inhibits energy production

In a March 23, 2001 letter Senators Breaux (R-LA) and Inhofe (R-OK) asked Vice President Cheney to use the Energy Plan to suspend NSR Lawsuits. They alleged that the

NSR lawsuits were interfering with energy production. The Edison Electric Institute stated, "If a utility decides not to perform routine maintenance for fear of EPA action, power plants may be put out of commission. With electric demand high, and with transmission constraints in certain parts of the country, this could seriously harm electric reliability."

The EPA rules involving NSR expressly provide that projects accompanied by enforceable commitments to not increase pollution are exempted from the NSR permitting procedures. Energy production can be increased as long as it does not significantly increase pollution.

An NSR Review Paper, released on June 22, 2001 by the EPA found that NSR has virtually no effect on Energy Production. The overwhelming factors are economic ones, not environmental regulations. The paper claims a company's decision to invest in a new power plant or to expand an existing one is based on the rate of return (ROR) of each potential investment option.

An analysis by the NorthBridge Group, quoted by the Clean Air Task Force, forecasts that over 250,000 megawatts of new power will be built in the U.S. by 2005. This new generation is nearly one-third of existing capacity. The analysis also shows that the peak demand reserve margin in every region of the country will exceed historic averages by 2005. Whether or not there is a glut or a shortfall of electric power, the Clean Air Act and the NSR provision is not stopping the building of new power plants.

NSR rules are so stringent that they prohibit maintenance activities

Industry lobbyists have said that the Clinton-era EPA interpreted the regulation so stringently that routine maintenance activities triggered the requirement for expensive pollution controls.

In a February 21, 2001 brief in the enforcement proceeding against the Tennessee Valley Authority, the Justice Department showed that projects classified as "routine maintenance" were in fact multimillion-dollar capital investment projects designed to substantially extend the life of a number of TVA power plants.

The Clean Air Task Force has found that "without exception, companies alleged to have violated New Source Review have claimed that they were only engaged in 'routine maintenance,' not modifications of their plants that would trigger the requirement to install modern emissions controls." However, Clean Air Task Force found that a review of documents from the enforcement cases indicated that the modifications were not "routine".

Finally, any weakening of the NSR rule would send a message that environmental laws may be ignored and that vitally necessary measures to improve public health, air and water quality will be sacrificed to political expediency.

NSR rules have prevented efficiency improvements

NSR has blunted efficiency improvements, says Scott



Segal, a spokesman for the Electric Reliability Coordinating Council; a lobbying group that includes several of the power companies being sued by the federal government. "Maintenance activities are essential to meet energy efficiency goals."

A New York Times editorial on January 9, 2002 stated, "...[this] is absurd on its face. The law is triggered only when plants create more pollution. Efficiency, in this context, means creating more power without increasing pollution—not just making maximum profits with minimum investment."

The power companies had stated that the efficiencies allegedly being discouraged by NSR would reduce pollution emissions. However, a study by MSB Energy Associates revealed that the pollution reduction benefits from these efficiencies (derived from aggressive heat rate improvements) were not only very expensive, but also were inconsequential when compared to the pollution reductions achieved by applying Best Available Control Technology.

Easing of the NSR regulations could produce an additional 40,000 megawatts of generating capacity

A report by the Coal Council states that running coal plants at their nameplate capacity could produce an additional 40,000 megawatts of generating capacity. In order to do this, though the anti-pollution restrictions of New Source Review would have to be relaxed. The results of this report were used by the Bush administration in the context of what it describes as a nationwide electricity reliability "crisis".

As shown above, environmental groups have claimed that there is no electricity reliability "crisis" and thus no need to relax pollution standards to increase electricity generation. Furthermore, a study by MSB Energy Associates attempted to verify the claims of the Coal Council.

MSB Energy Associates found that there are 28,474 megawatts of de-ratings at over 1,200 units. They also found that the capacity potentially available from recovering de-ratings tends to come in small increments. The average is 24 megawatts per unit. To achieve the total capacity would require major plant upgrades at about two-thirds of the nation's generating units. This makes recovery difficult and expensive.

Eliminating the "Command and Control" system will save \$1 billion each year in compliance costs

During his February 15, 2002 speech announcing his new initiatives to cut power plant emissions and address global climate change, President Bush stated, "The Clean Skies [called Clear Skies on the White House web page] legislation I propose is structured on this approach because it works. It will replace a confusing, ineffective maze of regulations for power plants that has created an endless cycle of litigation. Today, hundreds of millions of dollars are spent on lawyers, rather than on environmental protection. That result is painfully slow, uncertain and expensive programs on clean

air." The Executive Summary of the plan on the White House web page claims that the president's initiatives will, "Save Americans as much as \$1 billion annually in compliance costs that are passed on to American consumers." It also points out that "There's no need for lengthy, costly, uncertain litigation to enforce the law."

It is not clear what the savings in "compliance costs" refers to. It could either be the money that otherwise would have been spent on pollution controls. Or it could be the money saved from litigation if the power producers are allowed to decide how they will implement pollution abatement rather than being told how to do so by the EPA (command and control). If it is the former we are still left with the pollution. If it is the latter, the same savings could be realized if the power companies obeyed the law like everyone else is expected to do.

The President's arguments on behalf of the power plants is similar to the response of a typical teenager when questioned about her homework, "I would get my work done much quicker if you would only stop nagging me and giving me consequences." As parents we evaluate a statement like this based on past performance. The past performance of U.S. power generators does not indicate that they would do a good job of reducing air pollution if they were not required to do so.

CONCLUSION

It is interesting to consider the pros and cons of different strategies for reducing air pollution versus maximizing profits, but a recent article in the March 6, 2002 issue of the *Journal of the American Medical Association*, written by Dr. George D. Thurston tends to put the issue in perspective. Dr. Thurston and others studied data collected by the American Cancer Society involving 500,000 adults over a period of 16 years from 1982 to 1998. They compared the relationship between long-term exposure to fine particulate air pollution and all-cause, lung cancer, and cardiopulmonary mortality. This type of pollutant is emitted primarily by coal-burning power plants in the Midwest and East, and diesel trucks and buses in the West. They found that, "Fine particulate and sulfur oxide-related pollution were associated with all-cause, lung cancer, and cardiopulmonary mortality. Each 10- $\mu\text{g}/\text{m}^3$ elevation in fine particulate air pollution was associated with approximately a 4%, 6%, and 8% increased risk of all-cause, cardiopulmonary, and lung cancer mortality, respectively."

Although Dr. Thurston said fine-particulate pollutant averages have fallen significantly since the early 1980s, they are still at or above the EPA limit in metropolitan areas such as New York, Washington, Chicago and Los Angeles. Dr. Thurston's study makes it unavoidably clear that air pollution of the kind emitted by coal-burning power plants and subject to regulation by the EPA's New Source Review provisions, are directly related to when and how many of us will die. We have no choice; we have to breathe the air. It is the same air for all of us, rich or poor. And as those of us, who have watched someone die of cancer know, it is not the preferred way to end one's life.

CHERNOBYL UPDATE

The tragedy of Chernobyl, like war and other man made disasters, was the creation of a government whose leaders were guided by megalomania, greed and a complete lack of regard for the people they governed.

Oksana, pictured here, is one of the thousands of Ukrainian children who were born with multiple handicaps resulting from the radioactive contamination following the meltdown of the Chernobyl reactor.

World Information Transfer (WIT) is assisting victims of environmental degradation, like Oksana. Our efforts bring small victories as shown in Oksana's recent letter, written to WIT's founder, reprinted below.

If you'd like to help WIT assist young victims of environmental mismanagement, please contact the Editor of the *World Ecology Report* at wit@igc.org.



Dear madam,
I am writing to you my letter,
I am a pupil of the 6th form.
My school is not far from our
house, It is not new but, I like
it. Every day I get up at 7 o'clock,
wash, dress and have my breakfast.
after breakfast, I go to school.
I have 5 or 6 lessons a day. At
2 o'clock I come back home and
my dinner. Then go to play in the
yard. Sometimes my friend and
I go shopping. At 4 o'clock I do
my lessons. In the evening, I help
my mother about the house. I also
read the books, watch TV. At 10 o'clock
I go to bed.

your friend
Oksana.



VOICES

■ UN General Assembly has set a new date for the Special Session on Children, May 8-10, 2002. The Special Session, originally planned for September 19-21, 2001, was postponed following the tragic events of September 11. For updates about the Special Session see the UNICEF website, www.unicef.org/specialsession/. *We the Children*, the Report issued by UN Secretary-General Kofi Annan for the Special

Session, is now available on the web at www.unicef.org/specialsession/about/sg-report.htm

■ The World Food Summit, Five Years Later, hosted by the UN Food and Agricultural Organization (FAO), will be held at FAO headquarters in Rome, June 10 to 13, 2002. The meeting is meant to track progress on eradicating world hunger since the 1996 World Food Summit and consider ways to accelerate the process. The summit was originally scheduled for November 5-9, 2001, but has been delayed in the aftermath of the September 11 attacks in the United States. Current data indicates that the number of undernourished is falling at an average rate of only 6 million each year, far below the rate of 22 million per year needed to reach the World Food Summit target. Information on the Summit is available at www.fao.org/worldfoodsummit/

■ The World Summit on Sustainable Development—also known as the Johannesburg Summit 2002—will bring together heads of State and Government, national delegates and leaders from non-governmental organizations, businesses and other major groups to focus on implementing strategies for sustainable development. At the 1992 Earth Summit in Rio, the international community adopted Agenda 21, the global plan of action for economic and social development while protecting the environment. Ten years later, the Johannesburg Summit presents a critical opportunity for the adoption of implementation strategies. The Summit will take place in Johannesburg, South Africa, August 26 to September 4, 2002. The Summit will be held in the Sandton Convention Centre, just outside Johannesburg. A non-governmental forum will take place at the nearby Gallagher Estate. Further information is available at www.johannesburgsummit.org/html/basic_info/basicinfo.html

■ The World Economic Forum and the Center for International Development (CID) at Harvard University released *The Global Information Technology Report 2001-2002: Readiness for the Networked World*, examining the state of information technology around the world. The

VOICES continued on page 14

**World Information Transfer's
11th International Conference
Health and Environment:
Global Partners For Global Solutions**

THEME:

Childhood Antecedents to Adult Illness

Co-sponsored by the Government of Jamaica,
Government of Ukraine,
and the American Academy of Pediatrics

DATE/TIME/LOCATION:

April 25 and April 26, 2002
10:00 a.m. to 1:00 p.m. & 3:00 to 6:00 p.m.
United Nations Headquarters, New York City

TOPICS:

*Applying the "Precautionary Principle" versus Human
Health Risk Assessment to Childhood Exposures*

Dr. Katherine M. Shea,
Duke University Medical Center, Durham, North Carolina

*Chemicals and Pesticides:
Risks to Children in a World of Globalized Commerce*

Dr. Lynn R. Goldman,
Johns Hopkins University, Baltimore, MD

Childhood Development and Neurotoxicants
Dr. Michael Shannon, Children's Hospital, and Harvard
Medical School, Cambridge, MA.

Childhood Exposures to Endocrine Disruptors

Dr. Walter J. Rogan,
NIEHS Epidemiology Branch, Research Triangle Park, NC

Environmental Effects on Cancer in Girls and Women

Dr. Devra Davis,
Carnegie Mellon University, Pittsburgh, PA

*Long-Term Consequences of Early Childhood Exposures
to Toxic Chemicals in the Environment*

Dr. Philip J. Landrigan,
Mount Sinai School of Medicine, New York, NY

*Medicine and Humanity:
Finding the Correct Balance in Pediatric Intensive Care*

Dr. Joan LaRovere,
Royal Brompton Hospital and
Imperial College School of Medicine, London, UK

Rising Risk of Skin Cancers to Children Worldwide

Dr. Allan Halpern,
Sloan Kettering Memorial Hospital, New York, NY

Water, Sanitation and Children's Health
Dr. Vanessa Tobin, UNICEF

On-line registration at www.worldinfo.org

report concludes that the United States, Northern Europe and Singapore lead the world in "Networked Readiness." The Report contains the first Networked Readiness Index (NRI) ranking 75 countries according to their capacity to take advantage of ICT networks. The United States ranks first on the NRI, Iceland ranks second, Finland and Sweden are slightly behind, followed by Norway and the Netherlands. Additional information on the Global Information Technology Report can be found at www.cid.harvard.edu/

■ *Materials Matter: Toward a Sustainable Materials Policy*, by Kenneth Geiser, MIT Press: 2001. This study documents the proliferation of new materials over a 200 year period showing both the creative ingenuity of industry and its toxic legacy. Geiser examines the minor calamities of this legacy as well as the range of environmental and health concerns that have followed. The first part of the book focuses on the history of product development, and the second half explores alternative policies for creating sustainable materials.

Communicating the Health Impact of Environmental Degradation to Older Persons

Official Side Event to the
UN World Assembly on Aging
Madrid, Spain, April 8-12

Sponsored by the Government of Ukraine and
Organized by World Information Transfer

VENUE:

April 9, 5:30-7:30, South Area, Room A,
IFEMA Conference Hall, Madrid

The side event will address the specific dynamics that have caused older persons in the Countries in Transition to have shifted from relative socio-economic security to insecurity with the loss of safety nets. The side event will also highlight health conditions of older persons in the Middle East region. The outcome recommendations will focus on modalities for communicating health information to older persons for the purpose of providing information within the context of healthy aging.

SPEAKERS:

H. E. Ambassador Valery P. Kuchinsky,
Permanent Representative of Ukraine to the U N, New York

H. E. Ambassador Nina K. Kovalska,
Ambassador of Ukraine to the Vatican

Representative of Egypt

Moderator: Dr. Christine K. Durbak,
World Information Transfer, Chair and Founder

Representatives of Government Delegations,
UN Secretariat, NGOs are invited to attend.

POINT OF VIEW (continued from page 16)

number of poor people—the majority of whom currently are women and children.

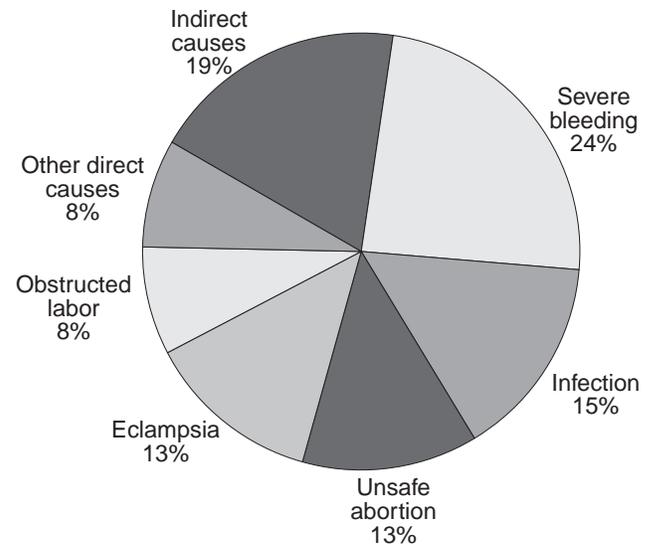
If the wealthiest 20% of the world's current population added global stability through health to their weekly shopping list, they would find a bargain in purchasing the remedies for preventable diseases such as malaria, cholera, parasitic infections, and AIDS. High infant mortality and short adult lifespans resulting from preventable diseases waste the productivity of workers and can paralyze whole economies. Short life expectancy also stimulates high birth rates in cultures where children are expected to help support their families rather than go to school.

With the privilege of wealth comes the responsibility to help others, but private citizens need the support of their governments and business leaders to reduce the shopping gap. The statistics tell us the time is now. Since September 11, there have been myriad associations linking poverty to terrorism's foot soldiers. New global alliances offer opportunities for creative partnerships so that more of us can enjoy the experience of shopping for each other's goods.

SOURCE: United Nations. 2001. *World Population Prospects, The 2000 Revision: Highlights*. Population Division, Department of Economic and Social Affairs

DID YOU KNOW?

Causes of Maternal Deaths



Over 500,000 women die each year from pregnancy-related causes (about 1,600 per day or more than 1 death per minute), and pregnancy-related complications cause life-long injury to millions more.

SOURCE: UNFPA

World Information Transfer is a Non-Profit, Non-Governmental Organization in Consultative Status with the United Nations, Promoting Health and Environmental Literacy.

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MISSION STATEMENT

**Knowledge brings new choices.
Education brings new knowledge.**

World Information Transfer, Inc., (WIT) is a not-for-profit, non-governmental organization in consultative status with the United Nations, promoting environmental health and literacy.

In 1987, inspired by the Chernobyl nuclear tragedy, WIT was formed in recognition of the pressing need to provide accurate actionable information about our deteriorating global environment and its effect on human health to opinion leaders and concerned citizens around the world.

WIT exercises its mandate through:

1. The publication of the *World Ecology Report*, a quarterly digest of critical issues in health and environment, published in five languages and distributed to opinion leaders around the world, and for free in developing countries.

2. The annual international conference on *Health and the Environment: Global Partners for Global Solutions* held at United Nations headquarters in New York since 1992. The world's leading authorities in the field of environmental medicine and science share their latest findings and discuss possible solutions with leaders in governments, business, organizations, and the media.

3. Development and distribution of CD-ROM projects focusing on sustainable development and human health and research on health issues as they relate to the environment.

4. Providing humanitarian relief to areas devastated by environmental degradation. Supplies and equipment are sent to schools, hospitals and orphanages in areas contaminated by the Chernobyl fallout.

5. Centers for Health & Environment providing centralized specific scientific data pertaining to health and sustainability issues. The objective of the Centers is to promote ongoing research, education and implementation of corrective programs. The first center was opened in Kiev, Ukraine, in 1992 and moved to Lviv, Ukraine, in 1996 to K. Levyckoho 11a, #15, telephone/fax: 322-76 40 59. The second opened in Beirut, Lebanon, in 1997, at Bir Hasan, United Nations Street, Al-Salaam Building, telephone: 961-1-853657.

WIT currently operates from headquarters in New York City with regional offices in Australia, Belgium, Canada, Costa Rica, Egypt, France, Germany, Holland, India, Iraq, Israel, Lebanon, Nigeria, Russia, Switzerland, Ukraine and USA.

WIT is on the Board of Congo (Conference of Non-Governmental Organizations) in Consultative Relationship with the United Nations.

We have not inherited the world from our forefathers...we have borrowed it from our children. -Kashmiri Proverb

World Information Transfer
WORLD ECOLOGY REPORT

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(ISSN #1080-3092)
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POINT OF VIEW: The Shopping Gap

People shop. Whether the market place is riverboats, open stalls, covered malls or the Internet, shopping drives the world's economies and unites us in basic shared experiences. Increasingly, the stuff in our homes comes from all over the globe.

Currently, a huge shopping gap exists. According to the *United Nations 2001 World Population Prospects, (The 2000 Revision: Highlights)*, globally, the 20% of the world's people who live in the highest-income countries account for 86% of total "private consumption expenditures". The poorest 20% account for 1.3%. In other words, 20% of the world's wealthiest buy 86% of the world's goods.

The chart on this page details this pattern.

The 20th century shopping boom in the industrialized countries created the 21st century legacy of global pollution. The ecological footprint of a child born in an industrialized country will add more to pollution over his or her lifetime than 30 to 50 children born in developing countries, although we must bear in mind that the life span of a child from an industrialized nation is in some cases almost twice that of a child born in a Least Developed Country. Currently, the 20% of the world's people who live in industrialized nations produce over 50% of total carbon dioxide emissions, while the poorest 20% produce 3%. The United States alone, with only 4.6% of the global population, emits nearly 25% of global greenhouse gases.

These statistics seem to suggest that wealth and shopping lead to environmental degradation, while poverty and minimal purchasing sustain the environment. We know through the work of economist Amartya Sen and others that impoverished communities denude their environments of life sustaining resources, rely on large families for income and support in old age, and perpetuate their poverty to succeeding generations.

According to the *United Nations Population Division's World Population Prospects: The 2000 Revision*, as many people will be added in the next 50 years as were added in the past 40 years; and the increase will be concentrated in the

poorest countries. Six countries account for half of this growth: India (with 21% of the total increase), China, Pakistan, Nigeria, Bangladesh and Indonesia.

Developing countries, by 2050, will account for over 85% of world population. Total population in developed countries will remain at around 1.2 billion, but population will decline in 39 low-fertility countries, most sharply in Eastern Europe. Populations in both developed and developing countries will be older in 2050 than today.

The population projections imply that the shopping gap will grow as will environmental deterioration in the developing world, particularly in the poorest nations, as a consequence of population pressures on local finite natural resources. The projections also portend a growth in the

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Consumption Levels, from Wealthiest to Poorest

	Per cent consumed by people in industrialized countries	Per cent consumed by the poorest 20% of people in developing countries
Total energy resources	58	< 4.0
Meat and fish	45	5.0
Paper	84	1.1
Vehicles	87	< 1.0
Telephone lines	74	1.5

SOURCE: *State of World Population, 2001, UNFPA*



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"Never doubt that a small group of thoughtful committed citizens can change the world. Indeed it's the only thing that ever has."

Margaret Mead

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