Effects of air pollution on ecosystems assignment

Environment, Air

Make a promise to protect clean air. Nearly 37 million children live in areas with unhealthy polluted air, and many pollution- associated illnesses have been on the rise. Yet polluters and their allies in Congress have been fighting efforts to reduce toxic industrial pollution and are trying to weaken existing clean air protections. That’s why NRC has joined other public health, advocacy and environmental organizations in the “ Clean Air Promise,” a national campaign to protect the health of children and families across the country from dangerous air pollution.

As part of this campaign, we will be asking elected officials, and eater corporate and industry leaders, to promise to support clean air protections. Send a message urging your senators and representative to make the Clean Air Promise to protect children from dangerous air pollution here. American families deserve this commitment from their elected representatives at a time when pollution from power plants, cement kilns and other industries and sources still pose serious threats to our health.

Since 1970, the Environmental Protection Agency has protected public health by setting and enforcing standards to protect the quality of the air we breathe ND the water we drink. But there is more to do. Many older power plants and industrial facilities enjoy loopholes that allow them to pollute at much higher levels than their cleaner counterparts. To protect public health from these dirty plants, we need the EPA to set standards that level the playing field by requiring all plants to meet the same cleaner standards. And since Congress failed to pass legislation to address global warming pollution, that job falls to the EPA.

However, polluters and some business organizations are pressuring members of Congress to stop the EPA from doing its job of retention public health by rolling back existing public health laws like the Clean Air Act and blocking needed clean air and clean water protections. Some key public health standards now under attack: Standards to Reduce Toxic Power Plant Air Pollution establishing standards to reduce toxic pollution from the thousands of power plants nationwide could save as many as 17, 000 lives a year, prevent respiratory and cardiovascular diseases, and reduce the exposure of children to mercury and lead.

Health Standards for Smog (Ground-Level Ozone) We could save up to 12, 000 lives per year and prevent tens of thousands of asses of respiratory and heart disease by tightening national smog pollution standards. Standards to Reduce Toxic Industrial Air Pollution We could save approximately 5, 000 lives per year and prevent thousands of cases of respiratory and heart disease by reducing toxic air pollution from industrial plants.

Reducing Global Warming From Cars and Light Trucks Improving emissions performance in cars and light trucks would reduce heat- trapping carbon pollution that causes global warming while saving consumers billions of dollars and cutting oil use. Reducing Global Warming From Medium, and Heavy-Duty Trucks The first-ever standards to cut carbon dioxide emissions and improve fuel efficiency in medium- and heavy-duty trucks would reduce global warming pollution, save 500 million barrels of oil over the lifetimes of the trucks sold during model years 2014 to 201 8 and save truck operators $49 billion over the life of the vehicles.

Reducing Global Warming From Power Plants Instituting standards to reduce global warming pollution from power plants would help reduce the pollution that is increasing deaths and illnesses from heat waves, air pollution, infectious diseases, and severe weather events. Despite the EPA and the Clean Air Act’s success, the job isn’t finished. Air pollution continues to be a health problem, with many types of pollution and sources of pollution left unaddressed because of loopholes or political pressure or delays. But polluters and other special interests are once again asking Congress to put profits before public health.) Heat-trapping gases from U. S. Power plants fell 4. 6 percent in 2011 from the previous year as plants burned less coal, the biggest source of greenhouse gas pollution, according to a new government report. The report, released Tuesday by the Environmental Protection Agency, said power plants remain the largest stationary source of carbon dioxide and other greenhouse gases that trigger global warming. Power plants were responsible for 2. 2 billion metric tons of carbon dioxide equivalent in 2011. The reduction from 201 0 reflects a relative decline in the use of coal, the dominant U.

S. Energy source, and an increase in natural gas and renewable sources that produce lower amounts of greenhouse gases, the report said. Power plants produced roughly two-thirds of greenhouse gas emissions from stationary sources, the EPA said, with trolled and natural gas systems a distant second and refineries the third- largest carbon pollution source. The annual report was the second produced by the EPA as it tracks global warming pollution by industry type and individual facility. The data include more than 8, 000 facilities in nine industrial sectors that produced more than 3. Billion tons of

carbon dioxide equivalent. The report shows that greenhouse gas pollution is concentrated at large power plants, petroleum refineries and chemical plants. Just 4 percent of the sites analyzed were responsible for 57 percent of the reported pollution in 201 1. For the second year in a row, the Pea’s data shows that the largest greenhouse gas polluter in the nation in 2011 was the Scorcher power plant in Juliet, Ga. The coal-fired plant, owned by Atlanta-based Southern Co. , reported releasing more than 22 million metric tons of carbon dioxide, the chief greenhouse gas, in 2011.

Another Southern-owned plant was the second-largest polluter nationally: the James H. Miller, Jar. Power plant in Question, Ala. , which also produced 22 million metric tons of carbon dioxide equivalent. Martin Lake power plant in Datum, Texas, operated by Dallas- based Illuminant, was third, with 18. Million metric tons Of carbon pollution, the report shows. Peter Azalea, an attorney for the Environmental Defense Fund, called the EPA report “ a call to action for America to work together” to find innovative solutions to address carbon pollution from power plants and methane from oil and gas production. We know where the largest sources are. We know where we have to apply smart solutions,” he said. 3) Using nuclear power in place of fossil-fuel energy sources, such as coal, has prevented some 1. 8 million air pollution-related deaths globally and could save millions of more lives in coming decades, concludes a study. The researchers also find that nuclear energy prevents emissions of huge quantities of greenhouse gases. These estimates help make the case that policymakers should continue to rely on and expand nuclear power in place of fossil fuels to mitigate climate change, the authors say (Environ. Sic.

Techno. , DOI: 10. 1 021/assesses 97). In the wake of the 2011 Fuchsia nuclear disaster in Japan, critics of nuclear power have questioned how heavily the world should rely on the energy source, due to possible risks it poses to the environment and human health. “ l was very disturbed by all the active and in many cases unfounded hysteria regarding nuclear power after the Fuchsia accident,” says report coauthor Pushier A. Karachi, a climate scientist at Anna’s Goddard Institute for Space Studies, in New York. Working with Goddard James E. Hansen, Karachi set out to explore the benefits of nuclear power.

The pair specifically wanted to look at nuclear poems advantages over fossil fuels in terms of reducing air pollution and greenhouse gas emissions. Karachi was surprised to find no broad studies on preventable deaths that could be attributed to nuclear power’s pollution savings. But he did find data from a 2007 study on the average number of deaths per unit of energy generated with fossil fuels and nuclear power (Lancet, DOI: 10. 101 253-7). These estimates include deaths related to all aspects of each energy source from mining the necessary natural resources to power generation.

For example, the data took into account chronic bronchitis among coal miners and air pollution-related conditions among the public, including lung cancer. The NASA researchers combined this information with historical energy generation data to estimate how many deaths would have been caused if fossil-fuel burning was used instead of nuclear power generation from 1971 to 2009. They similarly estimated that the use of nuclear power

over that time caused 5, 000 or so deaths, such as cancer deaths from radiation fallout and worker accidents.

Comparing those two estimates, Karachi and Hansen came up with the 1. 8 million figure. They next estimated the total number of deaths that could be prevented through nuclear power over the next four decades using available estimates of future nuclear use. Replacing all forecasted nuclear power use until 2050 with natural gas would cause an additional 420, 000 deaths, whereas swapping it with coal, which produces significantly more pollution than gas, would mean about 7 million additional deaths.

The study focused strictly on deaths, not long-term health issues that might shorten lives, and the authors did not attempt to estimate potential deaths tied to climate change. Finally the pair compared carbon emissions from nuclear power to fossil fuel sources. They calculated that if coal or natural gas power had replaced nuclear energy from 1971 to 2009, the equivalent of an additional 64 agitation of carbon would have reached the atmosphere. Looking forward, witching out nuclear for coal or natural gas power would lead to the release of 80 to 240 agitation of additional carbon by 2050.

By comparison, previous climate studies suggest that the total allowable emissions between now and 2050 are about 500 agitation of carbon. This level of emissions would keep atmospheric CA concentrations around 350 pimp, which would avoid detrimental warming. Because large-scale implementation of renewable energy options, such as wind or solar, faces significant challenges, the researchers say their results strongly support the

case for nuclear as a critical energy source to help stabilize or reduce greenhouse gas concentrations.

Bas van Receive, an environmental economist at the National Center for Atmospheric Research, in Boulder, Cool. , says the estimates on prevented deaths seem reasonable. But he wonders if the conclusion that nuclear power saves hundreds Of times more lives than it claims will convince ardent critics. 4) The nuclear power issue is “ so polarize that people who oppose nuclear power will immediately dispute the numbers,” Van Receive says. Nonetheless, he agrees with the pains conclusions on the importance of clear power. The EPA is responsible for implementing the Clean Air Act.