

Testimony
EPA’s Proposed Rule to
“Reduce Interstate Transport of Ozone and Fine Particle Pollution”
Docket Number EPA-HQ-OAR-2009-0491

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My name is Mandy Warner and I am a Policy Analyst with Environmental Defense Fund (EDF), a non-partisan, non-profit environmental organization with more than 700,000 members nationwide. Thank you for the opportunity to testify today.

The Proposed Rule is an important step in protecting public health and the environment. However, given the substantial benefits of reducing emissions, stronger standards can and should be set. EDF respectfully requests that the Environmental Protection Agency (EPA) significantly strengthen the limits on sulfur dioxide (SO₂) and nitrogen oxide (NO_x) in order to further improve the health and lives of millions of Americans.

EDF Technical Analysis on Health Effects Attributable to Emissions of SO₂ and NO_x Demonstrates the Need for Health Protective Standards.

Independent technical analysis prepared for EDF used 2009 facility-specific emissions data for electricity generating facilities from EPA’s Clean Air Markets Data and Maps website. The analysis estimates that the SO₂ and NO_x emissions discharged from eastern power plants are associated with 23,000 to 60,000 deaths, 3.1 million lost work days, 800,000 cases of lower and upper respiratory symptoms, and over 18 million cases of acute respiratory symptoms each year.

As it stands, the emission limits in the Proposed Rule will make progress in saving lives, avoiding lost work days, and preventing cases of lower and upper respiratory symptoms. However, given the serious health impacts of SO₂ and NO_x emissions, strengthened standards to further protect public health are imperative.

Table 1. Cases of Attributable Health Effects

Health Effect	Total	SO₂ Alone	NO_x alone
Chronic Bronchitis	16,600	15,700	800
Acute Myocardial Infarction	42,200	40,100	2,100
Hospital Admissions, Respiratory	5,900	5,600	300
Hospital Admissions, Cardiovascular	12,400	11,800	600
Emergency Room Visits, Respiratory	20,400	19,400	1,000

Acute Bronchitis	39,800	37,800	2,000
Work Loss Days	3,182,100	3,023,000	159,100
Asthma Exacerbation	439,900	418,000	22,000
Acute Respiratory Symptoms	18,682,800	17,748,700	934,100
Lower Respiratory Symptoms	476,100	452,300	23,800
Upper Respiratory Symptoms	361,000	343,000	18,000
Infant Mortality	96	92	5
Adult Premature Mortality (Laden et al. 2006)	60,900	57,800	3,000
Adult Premature Mortality (Pope et al., 2002)	23,900	22,700	1,200

EDF Technical Analysis Demonstrates that Health Effects Caused by SO₂ and NO_x are Costly to Society.

These health effects not only threaten public health, but carry a hefty price tag. Work loss days attributable to these emissions cost approximately \$392 million in 2009. The 18 million cases of acute respiratory symptoms cost over \$1 billion in 2009. The 16,600 nationwide cases of chronic bronchitis cost an estimated \$8.2 billion in 2009. The technical analysis prepared for EDF indicates that the total monetized health harms associated with today's pollution levels from eastern power plants exceed \$200 billion annually and could be as much as \$500 billion annually.

EPA's own analysis indicates that the benefits of reducing SO₂ and NO_x emissions outweigh the costs of providing the reductions by at least 40:1 and potentially by over 100:1.¹ Technology solutions to control SO₂ and NO_x emissions exist and, given the relative low costs to high benefits of reducing emissions, the emissions standards should be substantially strengthened to secure vital, cost-effective health and economic benefits.

Table 2. Economic Value of Damages to Health (millions of 2006\$)

Health Effect	Economic Value of Damages to Health		
	(millions of 2006\$)		
	Total	SO ₂ Alone	NO _x alone
Chronic Bronchitis	\$8,196	\$7,787	\$410
Acute Myocardial Infarction	\$4,580	\$4,351	\$229
Hospital Admissions, Respiratory	\$82	\$78	\$4.1
Hospital Admissions, Cardiovascular	\$350	\$332	\$17
Emergency Room Visits, Respiratory	\$7	\$7.1	\$0.4
Acute Bronchitis	\$3	\$2.7	\$0.1
Work Loss Days	\$392	\$372	\$20
Asthma Exacerbation	\$23	\$22	\$1.2
Acute Respiratory Symptoms	\$1,109	\$1,053	\$55
Lower Respiratory Symptoms	\$9	\$8.2	\$0.4
Upper Respiratory Symptoms	\$10	\$9.8	\$0.5
Infant Mortality	\$838	\$796	\$42
Adult Premature Mortality (Laden et al. 2006)	\$488,162	\$463,756	\$24,407
Adult Premature Mortality (Pope et al., 2002)	\$191,650	\$182,068	\$9,582
Total Damages (with Laden et al. 2006)	\$503,761	\$478,575	\$25,187
Total Damages (with Pope et al. 2002)	\$207,249	\$196,887	\$10,362

Emissions of SO₂ and NO_x Impact Health and the Economy in Pennsylvania.

To illustrate the benefits of strong emissions limits, let's look at Pennsylvania. In Pennsylvania, the costs of SO₂ and NO_x emissions in terms of health and economic damage are high.

According to the American Lung Association, an estimated 100,000 adults and 34,000 children in Philadelphia County suffer from asthma.² Statewide, an estimated 758,000 adults and 224,000 children have asthma.

According to EPA's Environmental Benefits Mapping and Analysis Program, the human health benefit of reducing just one ton of SO_x from an electric generating unit (EGU) in the Philadelphia area is \$85,000 per year.³ The Commonwealth of Pennsylvania reported over 570,000 tons of SO₂ from EGUs in 2009, so the benefits across the Commonwealth from an 80% reduction in SO₂ emissions alone could total \$39 billion or more annually.

In sum, the health and economic impacts on Pennsylvania and the rest of the United States from SO₂ and NO_x pollution are significant. We respectfully request that the EPA establish substantially more rigorous limits on SO₂ and NO_x by 2014 in order to prevent more premature deaths, further reduce lost work days, and protect the millions of Americans who suffer from asthma and respiratory symptoms. Thank you again for the opportunity to testify.

¹ EPA Air Transport – Basic Information. <http://www.epa.gov/airquality/transport/basic.html>

² American Lung Association. *State of the Air 2010*. <http://www.lungusa.org/assets/documents/publications/state-of-the-air/state-of-the-air-report-2010.pdf>

³ EPA PM_{2.5} Benefit Per Ton Estimates available at: <http://www.epa.gov/air/benmap/bpt.html>