



BEYOND COAL

COMMUNITY HEALTH IMPACTS OF COAL MINING & TRANSPORTATION

Higher rates of disease:

A study of West Virginians showed that people in high coal-producing counties had higher rates of health problems like **cardiopulmonary disease, chronic obstructive pulmonary disease (COPD), high blood pressure, lung disease, and kidney disease**.¹

A study in West Virginia, Kentucky, and Pennsylvania found that coal mining was significantly related to risk of hospitalization for **high blood pressure and COPD**.²

Injuries and mortality:

People in coal mining communities may be adversely affected by **injuries and mortality** related to the effects of blasting (physical damages to land, soil erosion & flooding),³ and flood-related injuries and mortality related to buried streams from rubble deposits.⁴

For workers in the US, the coal mining industry is a leading cause of fatal injuries.^{5,6} The National Institute for Occupational Safety and Health reported that the fatality rate for coal mining in 2006 was 49.5 per 100,000 workers, more than 11 times greater than the fatality rate in all private industry (4.2 per 100,000).^{3,7}

Exposure to water pollutants:

Exposed rock from rubble deposits and abandoned mines releases heavy metals and other pollutants that contaminate drinking water and surface water.^{3,8,9,10}

Exposure to noise pollution from blasting.³

Respiratory and cardiovascular system effects from exposure to air pollutants:

Trains and trucks hauling coal release toxic air pollutants, including over 600,000 tons of nitrogen oxide (NOx) and 50,000 tons of particulate matter (PM) into the air every year,¹⁰ primarily through diesel exhaust. Health effects of NOx and PM include:

- Nitrogen oxides and PM_{2.5} are linked to **stunted lung development**¹¹ and hospital admissions for potentially fatal **cardiac rhythm disturbances**¹²
- PM_{2.5} concentrations in ambient air also increase the probability of hospital admission for **heart attacks**,¹³ **ischemic heart diseases**, **disturbances of heart rhythm**, and **congestive heart failure**.¹⁴
- **Death rates** in cities with high nitrogen dioxide concentrations were found to be 4 times higher than in cities with low nitrogen dioxide concentrations¹⁵
- Nitrogen oxides and PM are linked to **worsening of asthma**,^{16,17,18} **COPD**,^{19,20,21} **infant mortality**,^{22,23} and **ischemic stroke**^{24,25,26,27}
- PM is associated with **lung cancer**^{28,29,30}



Coal dust covers snow in Seward, 2010

Coal trains and trucks also release coal dust into the air, which degrades air quality and exposes nearby communities to dust inhalation.³¹ Health effects of coal dust exposure include:

- **Increased asthma, wheezing & cough** in children.³²
- Wide range of health problems associated with exposure to heavy metals designated as hazardous air pollutants, such as lead, selenium and mercury.
- Coal dust may be **carcinogenic**, depending on its chemical composition. There is evidence linking coal dust to **lymphomas** in laboratory animals.³³
- Inhalation of respirable coal dust causes **pneumoconiosis**, or **black lung disease** (permanent scarring of lung tissues) in coal mine workers.^{3,34}

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