

TRANSALTA'S THREAT TO PUBLIC HEALTH IN WASHINGTON



Washington's sole remaining coal plant, owned by TransAlta and located in Centralia, is a dirty, dangerous and outdated source of energy. Our continued reliance on coal is degrading our public health while preventing development of clean energy alternatives.

The TransAlta coal-fired power plant is Washington's largest single source of nitrogen oxide, carbon dioxide and mercury pollution in Washington. Coal pollutants affect all major body organ systems and contribute to four of the five leading causes of mortality in the US: heart disease, cancer, stroke, and chronic lower respiratory diseases ¹.

As Washington's largest source of global warming pollution, TransAlta contributes to the known health impacts of global warming. The World Health Organization estimated global warming to be responsible for 166,000 deaths in 2000, due to additional mortality from malaria, malnutrition, diarrhea and drowning ².

THE IMPACTS OF COAL

Coal impacts our health at each stage of its life cycle. The impacts of TransAlta's power production are not limited to the emissions of coal combustion and post combustion waste. The mining, transport and washing of coal all emit pollutants into the air and water which are known to have detrimental impacts on human health.



The TransAlta plant in Centralia, WA, is one of the state's biggest polluters. (Sierra Club)

For the amount of power that coal supplies, it produces a disproportionate share of electric utility-related pollution that is hazardous to our health. Nationally, coal supplies roughly 50% of the nation's electricity, and yet it emits approximately 87% of total utility-related nitrogen oxide pollution, 94% of utility-related sulfur dioxide pollution and 98% of all utility-related mercury pollution ³.

By increasing energy efficiency and utilizing renewable energy resources currently untapped in our region, Washington can lead our nation towards a coal free future. Operating at full capacity, TransAlta supplies less than 1,400MW of energy a day ⁴. Washington has the potential to supply an average of 13,128 megawatts of power with renewable energy sources, including geothermal, biomass, wind and solar resources ⁵. We can continue powering our lives while not subjecting Washingtonians to the detrimental health impacts of coal.

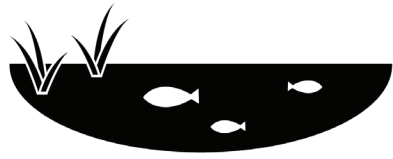
Washington can transition off TransAlta's coal power by 2015. For the sake of our public health, we need a healthy energy future that does not rely on dirty and dangerous coal.

TAKE ACTION!

Health care professionals can help move Washington beyond coal. Visit coalfreewashington.org and contact Cara Dolan, DolanCara@gmail.com, public health organizer for the Coal-Free Washington campaign, to learn how you can help build a coal-free future.

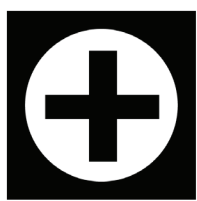
1. Physicians For Social Responsibility, Coal's Assault on Human Health. November 2009.
2. Patz JA, Campbell-Lendrum D, Holloway T, Foley JA. Impact of Regional Climate Change on Human Health. *Nature* 2005 Nov 17; 438:310-317.
3. EPA. National Air Quality and Emissions Trend Report, 2003 Special Edition. 2003: EPA 454/R-03-005. Appendix A.
4. TransAlta. Centralia Facilities. Plant Operation. November 2009.
5. North West Energy Coalition, Bright Future. July 2009.

TRANSALTA Cost In Numbers



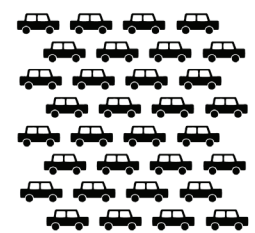
3.1 MILLION

ACRES OF LAKE THAT TRANSALTA'S MERCURY EMISSION IS CAPABLE OF CONTAMINATING ⁱ



\$11.2 MILLION

HEALTH CARE COST PER YEAR DUE TO TRANSALTA'S POLLUTION ^v



1.8 MILLION

NUMBER OF CARS THAT TRANSALTA'S CARBON EMISSION IS EQUAL TO PER YEAR ⁱⁱ



TRANSALTA PLANT



2.3 MILLION

TONS OF TOXIC COAL ASH WASTE GENERATED FROM TRANSALTA'S COAL BURNING PER YEAR ^{iv}



12

NUMBER OF LOCAL WILDERNESS AREAS SUFFERING FROM POOR VISIBILITY DUE TO TRANSALTA'S AIR POLLUTION ⁱⁱⁱ

i. Minnesota Pollution Control Agency, Michigan Department of Natural Resources, Wisconsin Department of Natural Resources, (Grant from U.S. Environmental Protection Agency), *Mercury in the Environment: The Waste Connection*. 1995.
 ii. Environmental Protection Agency, *Inventory of US Greenhouse Gas Emissions and Sinks: 1990-2007*; Environment Washington Research and Policy Center's report, *America's Biggest Polluters: Carbon Dioxide Emissions*. November 24, 2009.
 iii. BART Analysis for Centralia Power Plant, Prepared for TransAlta by CH2MHILL. January 2008.
 iv. U.S. EPA and United States Department of Energy (U.S. DOE). *Coal Combustion Waste Management at Landfills and Surface Impoundments. 1994-2004*. August 2006.
 v. National Academy of Science, *Hidden Costs of Energy: Unpriced consequences of Energy Productive and Use*. 2010.

Coalition Partners:



TRANSALTA'S HEALTH IMPACTS

POLLUTANT	TRANSALTA'S ANNUAL EMISSION	HEALTH IMPACTS
Ammonia	6,554 lbs	lung damage, skin, eye and throat irritation
Arsenic	6,638 lbs	cancer (multiple types), darkening of skin, hand warts
Barium	1,959,301 lbs	gastrointestinal problems, heart problems, muscle weakness
Chromium	125,051 lbs	cancer, ulcers, and other stomach problems
Cobalt	11,641 lbs	lung/heart/liver/kidney problems, dermatitis
Lead	10,158 lbs	decreases in IQ, nervous system, developmental and behavioral problems
Manganese	318,870 lbs	nervous system, muscle problems, mental problems
Mercury	354 lbs	mental retardation, permanent loss of intelligence, possible links to adult cardiovascular disease
Nickel	96,532 lbs	cancer, lung problems, allergic reactions
Vanadium	78,957 lbs	birth defects, lung/throat/eye problems
Zinc	44,691 lbs	gastrointestinal effects, reproductive problems
Carbon Dioxide	10,481,764 tons	indirect health affects association with climate change including the spread of infectious diseases, malaria, malnutrition, and increased heat and coal related illnesses
Hydrochloric Acid	8,455 lbs	throat irritation, narrowing of bronchioles, accumulation of fluid in the lungs
Hydrogen Flouride	72,095 lbs	skin, eye and respiratory tract irritation
Nitrate	52,782 lbs	high levels can displace oxygen from the blood stream
Nitrogen Oxide	10,070 tons	decreases lung functionality, respiratory diseases in children
Sulfuric Acid	13,192 lbs	skin, eye, mouth, nose and throat irritation
Sulfur Dioxide	3,546 tons	ischemic stroke, asthma exacerbation, increased risk of infant death, low birth weight, nasal congestion and inflammation, coughing and wheezing
Particulate Matter	895 tons of PM 278 tons of PM2.5 409 tons of PM10	heart attack, ischemic stroke, sudden infant death, cardiac disease, low birth weight, chronic airway obstruction

Source for health impacts: Agency for Toxic Substances and Disease Registry. Health Effects. July 2010; Physicians For Social Responsibility, *Coal's Assault of Human Health*. November 2009.

Source for CO2 amount: Environmental Protection Agency, Inventory of US Greenhouse Gas Emissions and Sinks: 1990-2007.

Source for mercury amount: South West Clean Air Agency. Continuous Emissions Monitoring. 2009 TransAlta Centralia Generation, LLC

Source for particulate matter, sulfur dioxide and nitrogen oxide: South West Clean Air Agency. 2009 105 Emission Validation Report for TransAlta Centralia Generation, LLC. Emissions data submitted March 2010

Source for rest of pollutants: Environmental Protection Agency. Toxics Release Inventory. 2008. Facility Report: TransAlta Centralia Generation. July 2010.