

Docket # VE 170033 and UG 170034

Comments on Puget Sound Energy's Rate Case with the Utilities
Transportation and Trade Commission Submitted by Judy Bardin on
August 31, 2017 in Olympia, WA.

Thank you for the opportunity to testify today. My name is Judy Bardin. I am a Registered Nurse, with a Masters in Environmental Health and a Doctorate focused in Epidemiology. Being retired from my former position as the State Department of Health's outdoor air quality epidemiologist, today I speak for myself.

I want to urge you to close the Coalstrip power plant in Rosebud County Montana by 2025 or sooner.

Burning coal has enormous and numerous health impacts. Some of the air pollutants and health effects are as follows: Sulfur dioxide and nitrogen oxides are strong respiratory irritants and decrease lung function; arsenic and benzene are cancer causing agents; mercury and lead are neurotoxins that especially adversely affect the developing brain; carbon monoxide robs the body of oxygen and leads to ozone formation; and fine particulate matter increases the risk of lung and heart disease and lung cancer. It has also been linked to lower birth weights and respiratory deaths in infants.¹²

Pollution control equipment can only partially eliminate these substances. Depending on weather conditions, air pollution can travel long distances. We witnessed this in August, when Canadian wildfire smoke swept into Washington and was then trapped for close to a week.

Six coal-related air pollutants are Criteria Air Pollutants regulated by the EPA because of their known health effects.

Please consider:

"People do not have a choice in the air they breathe. Breathing air pollution shortens life expectancy and increases visits to doctors and hospitals. Infants and children; older adults, pregnant women, and those with lung and heart disease, or a history of stroke or diabetes are more likely to develop symptoms or have diseases worsen. For example, breathing polluted air can cause people with lung or heart disease to have additional health problems such as asthma or heart attacks. As levels of air pollution rise, more people experience health complications or even die from breathing polluted air".³

Data from Washington shows estimates of some people at risk from coal-related air pollution.

- The U.S. Centers for Disease Control and Prevention (CDC) identified Washington's asthma prevalence as among the highest in the nation, and steadily increasing. More than half a million adults and 120,000 youth in Washington currently have asthma, and 100 people die of asthma each year.⁴

- Over five years 47,000 people were hospitalized with a heart attacks in Washington.⁵
- 6% of people in Washington have heart disease, and 10% have diabetes.⁶

I would like to quote a Scientific Statement from the American Heart Association on fine particulate matter a major pollutant from coal burning:

“Exposure to fine particulate matter over a few hours to weeks can trigger cardiovascular deaths, heart attacks, strokes, heart failure, and irregular heartbeats, especially in susceptible individuals. Long-term exposure to elevated concentrations of fine particulate matter even further increases cardiovascular risk and reduces life expectancy probably by several months to a few years for those with high exposure.”⁷

Another consequence of burning coal is the production of the greenhouse gases that lead to climate change. The Climate Impacts Group at the University of Washington has projected the health consequences from climate change in Puget Sound. We can expect more air pollution from smoke related to increased wildfires. Warmer temperatures themselves will cause increased hospitalizations due to heat stress from extreme heat events. The combination of air pollution and heat can be deadly to vulnerable people, especially the elderly as well as those who spend time outdoors, for example children, farm workers and the homeless. Rates of vector, water, and food-borne diseases such as West Nile Virus, bacterial shellfish diseases and Cryptosporidium in swimming areas will increase. Mental health effects from psychological stress are expected to rise as our climate warms. Additionally people will face safety concerns from flooding and mold growth related to increases in rainfall and sea level rise.⁸

Given the human health consequences of using coal for energy. I urge you to close the Coalstrip power plant and replace it by 100% renewable generation, and to set a timeline for closure of units 3 and 4 on or before 2025.

Submitted by,

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¹ United States Environmental Protection Agency. AP 42, Fifth Edition, Vol 1 Chapter 1: External Combustion Sources. 1.1 Bituminous and Subbituminous Coal Combustion.
<https://www3.epa.gov/ttn/chief/ap42/ch01/index.html>. Accessed August 29, 2017.

² Burt, E, Orris, P, Buchanan, S. University of Illinois at Chicago School of Public Health (2013). Health Care Research Collaborative. Scientific Evidence of Health Effects from Coal Use in Energy Generation.
<http://vindhyabachao.org/embeds/coal/Annexure%20A-7.pdf>. Accessed August 30, 2017.

³ Washington State Department of Health. Outdoor (Ambient) Air Pollution (2014). In The Health of Washington State. <http://www.doh.wa.gov/Portals/1/Documents/1500/EH-AQ2014.pdf>. Accessed August 30, 2017.

⁴ Washington State Department of Health. Asthma Data.
<http://www.doh.wa.gov/DataandStatisticalReports/DiseasesandChronicConditions/AsthmaData>. Accessed August 29, 2017.

⁵ Washington State Department of Health. Washington Tracking Network. Heart Attack Hospitalizations.
<https://fortress.wa.gov/doh/wtn/WTNPortal/>. Accessed August 29, 2017.

⁶ Washington State Department of Health (2017), Chronic Disease Profile. <http://www.doh.wa.gov/portals/1/Documents/Pubs/345-271-ChronicDiseaseProfileThurston.pdf>. Accessed August 29, 2017.

⁷ American Heart Association. AHA scientific statement: Particulate matter air pollution and cardiovascular disease-An update to the Scietific Statement from the Amercan Heart Association. *Circulation* 2010;121:2331-2378. <http://circ.ahajournals.org/content/109/21/2655.full>. Accessed August 30, 2017.

⁸ College of the Environment University of Washington Climate Impacts Group. State of the Knowledge: Climate Change in Puget Sound (2015). <https://cig.uw.edu/resources/special-reports/ps-sok/>. Accessed August 30, 2017.