Public commment

Docket # UE-161036

Rebecca MacMullan
Avista customer
Spokane resident

End coal-by-wire by 2023

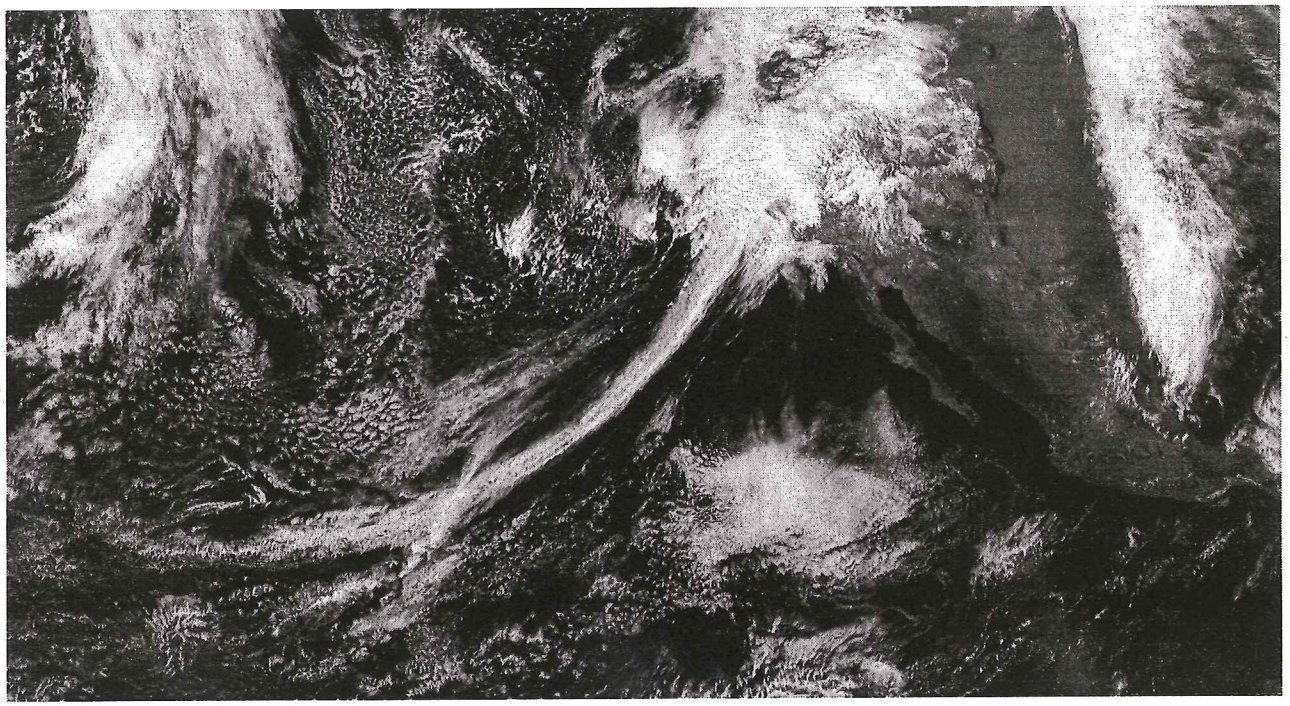
My name is Rebecca MacMullan. I'm an Avista customer with a distributed solar array on my home. Avista made that process simple and efficient, and I appreciate that Avista has made some efforts to embrace renewable energy. But on the issue of coal-by-wire, Avista is wrong. I ask that Avista commit to the 2023 end of Colstrip scenario described in the IRP instead of relying on coal for another 20 years. This plan does not account for the external costs of coal, the future cost of remediating Colstrip, or most importantly the almost incalculable costs of climate change.

The most recent U.S. Climate Science Report describes extensive evidence of increasing frequency of heat waves; increasing large forest fires; more chronic droughts; increasing heavy rainfall and floods; and continued global sea level rise. The report also states that the magnitude of climate change "will depend primarily on the amount of greenhouse gases (especially carbon dioxide) emitted globally."

The 16 million metric tons of CO2 emitted annually by Colstrip jeopodizes our chance at a livable future. Do not accept a 20 year plan that ignores this existential threat! If the UTC's mission is "to protect the people of Washington by ensuring that investor-owned utility … services are safe," then you can not approve this IRP and serve your mission.

The argument that we must choose between our environment or affordable power and it is based on the false assumption that we could ever escape paying for destruction of the environment on which our survival depends. It fails to account for the multi-billion dollar value of ecosystem services for humans. This IRP also fails to appreciate that the price of solar power, wind power and energy storage is decreasing rapidly. Let's plan to be leaders and investors in the clean energy future, not the fools left behind with debt and regret.

CLIMATE SCIENCE
SPECIAL REPORT



Executive Summary

Fourth National Climate Assessment | Volume I

U.S. Global Change
Research Program

Highlights of the U.S. Global Change Research Program Climate Science Special Report

The climate of the United States is strongly connected to the changing global climate. The statements below highlight past, current, and projected climate changes for the United States and the globe.

Global annually averaged surface air temperature has increased by about 1.8°F (1.0°C) over the last 115 years (1901–2016). **This period is now the warmest in the history of modern civilization.** The last few years have also seen record-breaking, climate-related weather extremes, and the last three years have been the warmest years on record for the globe. These trends are expected to continue over climate timescales.

This assessment concludes, based on extensive evidence, that it is extremely likely that **human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century**. For the warming over the last century, there is no convincing alternative explanation supported by the extent of the observational evidence.

In addition to warming, many other aspects of global climate are changing, primarily in response to human activities. **Thousands of studies conducted by researchers around the world have documented changes in surface, atmospheric, and oceanic temperatures; melting glaciers; diminishing snow cover; shrinking sea ice; rising sea levels; ocean acidification; and increasing atmospheric water vapor.**

For example, **global average sea level has risen by about 7–8 inches** since 1900, with almost half (about 3 inches) of that rise occurring since 1993. Human-caused climate change has made a substantial contribution to this rise since 1900, contributing to a rate of rise that is greater than during any preceding century in at least 2,800 years. Global sea level rise has already affected the United States; **the incidence of daily tidal flooding is accelerating in more than 25 Atlantic and Gulf Coast cities.**

Global average sea levels are expected to continue to rise—by at least several inches in the next 15 years and by 1–4 feet by 2100. A rise of as much as 8 feet by 2100 cannot be ruled out. Sea level rise will be higher than the global average on the East and Gulf Coasts of the United States.

Changes in the characteristics of extreme events are particularly important for human safety, infrastructure, agriculture, water quality and quantity, and natural ecosystems. **Heavy rainfall is increasing in intensity and frequency across the United States and globally and is expected to continue to increase.** The largest observed changes in the United States have occurred in the Northeast.

Heatwaves have become more frequent in the United States since the 1960s, while extreme cold temperatures and cold waves are less frequent. Recent record-setting hot years are projected to become common in the near future for the United States, as annual average temperatures continue to rise. Annual average temperature over the contiguous United States has increased by 1.8°F (1.0°C) for the period 1901–2016; **over the next few decades (2021–2050), annual average temperatures are expected to rise by about 2.5°F for the United States, relative to the recent past (average from 1976–2005), under all plausible future climate scenarios.**

The incidence of large forest fires in the western United States and Alaska has increased since the early 1980s and is projected to further increase in those regions as the climate changes, with profound changes to regional ecosystems.

Annual trends toward earlier spring melt and reduced snowpack are already affecting water resources in the western United States and these trends are expected to continue. Under higher scenarios, and assuming no change to current water resources management, **chronic, long-duration hydrological drought is increasingly possible before the end of this century.**

The magnitude of climate change beyond the next few decades will depend primarily on the amount of greenhouse gases (especially carbon dioxide) emitted globally. Without major reductions in emissions, the increase in annual average global temperature relative to preindustrial times could reach 9°F (5°C) or more by the end of this century. **With significant reductions in emissions, the increase in annual average global temperature could be limited to 3.6°F (2°C) or less.**

The global atmospheric carbon dioxide (CO_2) concentration has now passed 400 parts per million (ppm), a level that last occurred about 3 million years ago, when both global average temperature and sea level were significantly higher than today. Continued growth in CO_2 emissions over this century and beyond would lead to an atmospheric concentration not experienced in tens to hundreds of millions of years. There is broad consensus that the further and the faster the Earth system is pushed towards warming, the greater the risk of unanticipated changes and impacts, some of which are potentially large and irreversible.

The observed increase in carbon emissions over the past 15–20 years has been consistent with higher emissions pathways. **In 2014 and 2015, emission growth rates slowed as economic growth became less carbon-intensive.** Even if this slowing trend continues, however, it is not yet at a rate that would limit global average temperature change to well below 3.6°F (2°C) above preindustrial levels.

Recommended Citation for the Full Report

USGCRP, 2017: *Climate Science Special Report: Fourth National Climate Assessment, Volume I* [Wuebbles, D.J., D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 470 pp.