



The League of Women Voters of Oregon is a 101-year-old grassroots nonpartisan political organization that encourages informed and active participation in government. We envision informed Oregonians participating in a fully accessible, responsive, and transparent government to achieve the common good. LWVOR Legislative Action is based on advocacy positions formed through studies and member consensus. The League never supports or opposes any candidate or political party.

March 1, 2021

To: House Energy and Environment Committee
Representative Pam Marsh, Chair

Re: [HB 2479](#) – black carbon – **Support**

The League believes that climate change is a serious threat facing our nation and planet. The League believes that an interrelated approach to combating climate change is necessary to protect public health and defend the overall integrity of the global ecosystem. The League supports climate goals and policies that are consistent with the best available climate science and that will ensure a stable climate system for future generations. The best available science predicts significantly more climate-change-enhanced disasters if the global temperature rises more than .5°C above its current level. We are already seeing increasing damage from sea-level rise, wildfires, hurricanes, droughts, and floods.

Considerable attention is being paid to reducing the emissions of greenhouse gases. However, **there is another contributor to temperature increase and sea-level rise that has not been given sufficient attention: black carbon**, which is created by incomplete combustion of fossil fuels, biofuels and biomass. When it is in the atmosphere, it absorbs energy from the sun and causes atmospheric warming, and then when it’s deposited on snow and glacier surfaces, it ends up absorbing more solar radiation. It actually causes the surface of the snow or the glacier to become a little bit darker, so instead of incoming energy from the sun being reflected back out to space, that energy is absorbed, which leads to accelerated melting. When it causes melting of sea ice, the highly reflective ice is replaced by the much darker ocean.

[Measurements at Arctic research locations](#) (using isotopic techniques similar to those showing that global warming is primarily driven by fossil fuel combustion) have shown that the black carbon is dominated by emissions from fossil fuel combustion in the winter and by biomass burning in the summer. Although the black carbon from Oregon wildfires and fossil fuel burning remains in the atmosphere for only a few weeks, that is enough time for it to warm the atmosphere and to reach the Arctic. The effect on sea ice and glaciers lasts much longer. Locally, research by Central Washington University has shown that black carbon is contributing to early snow and glacier melt in the Cascades, which affects water storage and availability, impacting agriculture, salmon, and zero-emission hydropower.

Oregon thus has a reason to significantly decrease its generation of black carbon. During the winter, diesel engines are the major source, and we hope that by acknowledging that Oregon’s black carbon is a contributor to global warming, more action will be taken to decrease their emissions. In particular, acceleration of the replacement or refurbishment of old diesel engines, both those used for transportation and others, is necessary.

Thank you for the opportunity to support this legislation.

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