June 17, 2022

Washington State Building Code Council
1500 Jefferson St SE
Olympia, WA 98501

Chairman Doan and Members of the State Building Code Council:

As local elected officials from Whatcom County, we believe it is important for us to share our perspective on the impacts of a new all-electric residential energy code as we continue to weigh the many benefits with the potential or unintended consequences. Today, we write to urge the SBCC to build on your excellent work updating the Washington ~~s~~State commercial energy code and now adopt a new residential energy code for new construction that similarly aligns with our state and local climate and sustainability goals. Specifically, we support a new residential energy code that will help ~~transition~~ our communities decarbonize by transitioning to ~~all~~ electric space and water heating, while addressing vulnerabilities to climate change, reducing indoor and outdoor air pollution, maximizing use of passive solar and other energy saving technologies, and ensuring that we are building healthy, resilient, and affordable homes. By working towards the elimination of gas appliances, particularly for space and water heating, we can work to reduce pollution and carbon emissions from our building sector.

Statewide Clean Codes Are Needed to Support Local Government Efforts

In 2021, Whatcom County adopted a Climate Action Plan[1], which outlines many goals, strategies, and actions to reduce greenhouse gas emissions in the built environment. Whatcom County is one of at least a dozen cities and counties in Washington, representing over 1.7 million people, who have developed or are implementing climate action plans[2] that commit local resources to curbing dangerous greenhouse gas emissions.[3] Buildings comprise the second-largest – and fastest growing – component of our state's GHG emissions, including 29% of Whatcom County's GHG emissions. Statewide in 2018, burning fossil fuels in Washington buildings produced emissions equivalent to nearly 4 million cars or 5 coal plants. Washington state is required by law to achieve a 95% reduction in emissions from 1990 levels by 2050[4], and we are committed to doing our part. However, unlike with commercial construction, our reading of state law is that cities and counties are preempted from implementing energy codes for residential construction that are more stringent than the state's minimum requirements. Therefore, to meet our climate commitments, we are dependent on the SBCC to act again and require *all* new buildings across the state to be clean.

Clean Codes Support Our Energy Efficiency and Climate Commitments

Washington is a leader in the clean energy economy. As we continue to move the supply side of our grid to net zero emissions by 2030 and 100% clean electricity by 2045 as required by state law,[5] we must also target direct combustion of fossil fuels in buildings and replace combustion with efficient electric appliances. ~~decrease the demand for energy.~~ For example, ~~H~~heat pumps, which are 2-4 times more efficient than electric resistance or combustion gas equipment, can and must play a significant role in keeping our state on track for the 70% reduction in energy use that SBCC is required by law to meet.[6]

The Climate Commitment Act (CCA) passed in 2021 imposes a steadily declining cap on greenhouse gas emissions to achieve a 95% reduction in by 2050; it will require natural gas suppliers to acquire rapidly declining and thus increasingly expensive pollution allowances, as gas use is phased out entirely over the coming decades. While existing gas customers will receive some protection from rate increases under the CCA, it's critical to note that most owners of newly constructed buildings will not.[7] Continuing to add any new buildings to the gas distribution system means locking in decades of carbon and methane emissions, and more stranded assets for the gas industry, while condemning homeowners to greater fuel price volatility and the likelihood of expensive retrofits in the future. To achieve our climate goals and protect consumers, our first step must be to stop digging the hole deeper and commit to efficient, all-electric appliances in every newly constructed building in the state.

Clean Codes Support Our Economy and Housing Costs

The 2021, Washington State Energy Strategy states that building electrification is "the least-cost strategy" to decarbonize the building sector.[8] In addition, one report estimates that electrifying our building stock would create 5,500 installation jobs in Washington and 80,000 manufacturing jobs nationwide that our state can compete for.[9]

The Rocky Mountain Institute's (RMI) Economics of Electrifying Buildings study, as well as several other studies, found that in Seattle, an all-electric home saves both money and 28 tons of CO_2 emissions over a 15-year period.[10] This is because all-electric homes are typically cheaper to build upfront: $4,500 less than a mixed-fuel home with a gas furnace, water heater, and air conditioning (increasingly vital in our warming climate, as evidenced by last summer's dramatic and dangerous heat wave[11]). In addition, even before the recent run-up in energy prices, exacerbated by the war in Ukraine, both the EIA and the World Bank forecast significant increases in natural gas costs, but relatively flat electricity costs – making the economic case for all-electric homes even stronger. Combined with the impacts of the phase-out of gas required under the CCA, any new homes built with gas will face ever increasing energy bills and an eventual expensive retrofit. This means that any new gas household we allow heightens the severe risk that we are stranding those families with escalating bills. And the homes least likely to be able to switch will be low-income households.

Clean Codes Support Healthy Homes and Communities

A recent Harvard study showed that in Washington, burning fossil fuels in buildings was responsible for 52 premature deaths and over $577 million in health impacts in 2017, based on *just their outdoor air pollution alone*. Combusting gas in furnaces, stoves and ovens releases dangerous air pollutants like methane (CH_4), nitrogen oxide (NOx), carbon monoxide (CO), fine particulate matter (PM2.5), ultrafine particles, and formaldehyde. Another recent study estimates "that natural gas stoves emit 0.8–1.3% of the gas they use as unburned methane" and "using a 20-year timeframe for methane, annual methane emissions from all gas stoves in U.S. homes have a climate impact comparable to the annual carbon dioxide emissions of 500 000 cars".[12] Furthermore, ~~T~~these pollutants can lead to a range of respiratory, cardiovascular, and neurological health issues - children in homes with gas stoves are 42% more likely to develop asthma symptoms.[13] Health burdens related to pollution and other environmental stressors such as extreme heat disproportionately affect low-to-moderate income communities and communities of color. Our State Energy Strategy has pledged to address these

disparities while also ensuring the "equitable distribution of clean energy benefits and reduction of burdens to communities highly impacted by climate change."[14] The SBCC adoption of an energy code that reduces air pollution will empower local communities like ours to repair the historical inequities that are further aggravated by climate change. Moving away from the use of an explosive gas to heat new buildings also reduces the risk of fire and explosions, such as that which occurred in the Greenwood neighborhood of Seattle in 2016.[15]

Codes Must Support Resilient Communities

Over the last year alone, Whatcom County has experienced increasingly severe and frequent effects of climate change including wildfires, heat dome, floods, and other severe weather events. These emergencies often disproportionately impact our low income and rural communities, exacerbating inequities and vulnerabilities. As local elected officials, we are responsible for ~~are on the front lines in~~ responding to and supporting our communities during these ~~extreme weather~~ events, which we expect to become even more common and severe in the future as climate change intensifies ~~like the recent floods, wildfires, droughts, and heat~~. We are committed to help solve climate change by lowering Washington's greenhouse gas emissions, and also to adapt to its effects by making our communities healthier, safer and more resilient.

In Whatcom County, we anticipate most of our growth will be accommodated by small cities, urban growth areas, and rural areas. These communities often experience frequent and prolonged power outages due to severe weather events, resulting in difficulty accessing basic needs. We want to recognize that some residents still depend on wood, natural gas, diesel, and other fossils fuels for backup energy during power outages. As we transition to all-electric new construction, communities must be able to prepare for emergencies and continue to build resilience and self-sufficiency, which may require wood fireplaces or gas-powered back-up generators in the short-term. Therefore, we urge the SBCC to allow for a strategic transition and incorporate measures addressing vulnerabilities and increasing community resilience. Concurrently, we are committed to working with our state and federal partners on energy grid modernization and resiliency, investing in underground utilities, and access to affordable and reliable electricity for all communities. ~~Prolonging gas use just makes no sense when there are better, cleaner and safer heat pump options available now, which take advantage of Washington's increasingly clean electrical grid.~~

For all the reasons mentioned above, we believe the SBCC should ~~require~~ move towards all-electric new residential construction, ensuring that our communities are sustainable, affordable equitable, and healthy, now and in the future.

Sincerely,

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[1] Whatcom County Climate Action Plan: https://www.whatcomcounty.us/DocumentCenter/View/61403/CAP-Final--20211022-ver2

~~[2] Whatcom County Climate Action Plan: https://www.whatcomcounty.us/DocumentCenter/View/61403/CAP-Final--20211022-ver2~~

[3] "Cities with Climate Action Plans," Zero Energy Alliance: https://zeroenergyproject.org/all-cities-with-climate-action-plans/
[4] Washington State Legislature: https://apps.leg.wa.gov/rcw/default.aspx?cite=70A.45.020
[5] "Clean Energy Transformation Act" Washington State Dept. of Commerce: https://www.commerce.wa.gov/growing-the-economy/energy/ceta/
[6] Washington State Legislature: https://app.leg.wa.gov/rcw/default.aspx?cite=19.27A.160
[7] Washington State Legislature, Climate Commitment Act, Section 15(c): https://lawfilesext.leg.wa.gov/biennium/2021-22/Pdf/Bills/Session%20Laws/Senate/5126-S2.SL.pdf
[8] Washington State Energy Strategy, pg. 67 (2021): https://bit.ly/3kJ5WOH
[9] Rewiring America, "The Benefits of Electrification,": https://map.rewiringamerica.org/states/washington-wa
[10] "The New Economics of Electrifying Buildings", RMI. https://rmi.org/insight/the-new-economics-of-electrifying-buildings
[11] "Hidden Toll of the Northwest Heat Wave: Hundreds of Extra Deaths": https://www.nytimes.com/interactive/2021/08/11/climate/deaths-pacific-northwest-heat-wave.html
[12] "Methane and NOx Emissions from Natural Gas Stoves, Cooktops, and Ovens in Residential Homes", *Environmental Science & Technology*: https://pubs.acs.org/doi/10.1021/acs.est.1c04707
[13] "Meta-analysis of the effects of indoor nitrogen dioxide and gas cooking on asthma and wheeze in children", Internal Journal of Epidemiology: https://doi.org/10.1093/ije/dyt150
[14] Washington State Energy Strategy, pg. 22 (2021): https://bit.ly/3kJ5WOH
[15] "Seattle explosion leaves heart of Greenwood neighborhood a gigantic mess": https://www.seattletimes.com/seattle-news/greenwood-explosion-destroys-buildings-injures-9-firefighters/