



September 22, 2020

RE: Climate Solutions comments on Seattle Commercial Energy Code update

Dear Seattle Department of Construction & Inspections (SDCI),

Climate Solutions thanks you for the opportunity to submit comments and recommendations on the proposed updates to the Seattle Commercial Energy Code. Climate Solutions is a clean energy nonprofit organization working to accelerate clean energy solutions to the climate crisis. The Northwest has emerged as a hub of climate action, and Climate Solutions is at the center of the movement as a catalyst, advocate, and campaign hub.

Climate Solutions supports the adoption of the proposed amendments to the Seattle Commercial Energy Code, and offers the following comments and suggestions:

- We support the addition in C101.3 of language committing to the reduction of carbon emissions in the design and construction of buildings.
- We strongly support section C403.1.4 to formalize code restrictions on electric resistance and fossil fuel space heating and extend them to multifamily buildings. We encourage SDCI to not delay implementation of this section past the current proposed date of February 2021.
- We also strongly support section C404.2.3 to require heat pump water heating for group R-1 and R-2 buildings with central hot water, and we encourage SDCI to not delay implementation of this measure past the current proposed date of January 2022.
- We also recommend adding a provision that requires new commercial and large multifamily buildings to not include gas appliances.

By approving the proposed amendments and adding restrictions on gas appliances, the City has the opportunity to eliminate most fossil fuel uses for commercial and large multifamily buildings in Seattle. We are also pleased that SDCI has engaged with affordable housing developers and advocates to ensure that these updates are equitable for low-income residents.

The proposed updates are timely: Seattle already faces major climate change impacts, including higher annual temperatures, increased smoke from wildfires, rising sea levels, declining snow pack and greater drought risk, increased flood risks, and more¹. We need to take bold action to reduce Seattle's greenhouse gas emissions (GHG) and future-proof new projects, particularly in the buildings sector. In Washington State, GHG emissions from buildings are growing at a faster rate than any other source of

¹ Seattle Office of Sustainability & Environment, "Preparing for Climate Change", August 2017, http://www.seattle.gov/Documents/Departments/Environment/ClimateChange/SEAClimatePreparedness_August2017.pdf

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carbon pollution². Energy used to heat, cool, and power commercial and large multifamily buildings accounts for 20% of Seattle’s GHG emissions; given Seattle’s carbon-neutral electricity, the use of fossil fuel-powered energy from natural gas, oil, and steam make up almost 90% of Seattle’s commercial building GHG emissions. Seattle’s Climate Action Plan (CAP) has committed to reducing building-sector GHG emissions by 39% from a 2008 baseline by 2030. Seattle is not on-track to meet that goal in terms of per-year building sector carbon reductions, indicating the need for more stringent measures³.

In addition to producing emissions, the use of fossil fuels in buildings increases indoor and outdoor air pollution. Buildings in Washington generate more than two times as much nitrogen oxide (NOx) as power plants do⁴. Gas stoves and appliances also cause significant indoor air pollution: natural gas cooking appliances such as those used in many large multifamily buildings emit NOx, carbon monoxide (CO), fine particulate matter (PM 2.5), ultrafine particles, and formaldehyde, which compromise indoor air quality⁵. Living in a home with gas cooking increases a child’s chance of developing asthma by 42%⁶. In total, buildings are the top source of pollution-related premature deaths in Washington⁷. The COVID-19 pandemic further heightens all air pollution risks: a recent study by Harvard found that small increases in exposure to PM 2.5 lead to a large increase in the COVID-19 death rate⁸.

Air pollution also disproportionately impacts vulnerable and historically disadvantaged populations. Pollutants emitted by gas cooking appliances impact the respiratory and cardiovascular health of vulnerable populations such children, the elderly, and those with existing health conditions⁹. Black, Indigenous, Latinx, and Asian people, as well as people with lower socioeconomic status, have higher risks of death from particle pollution, in part due to the historical impacts of segregation and redlining that have led communities of color to be pushed to live in places with greater exposure to air

² Washington State Department of Ecology, “Washington State Greenhouse Gas Emissions Inventory: 1990-2015, Report to the Legislature,” December 2018, <https://fortress.wa.gov/ecy/publications/documents/1802043.pdf>

³ Seattle Office of Sustainability & Environment, “2016 Seattle Community Greenhouse Gas Emissions Inventory”, February 2019, http://www.seattle.gov/Documents/Departments/OSE/ClimateDocs/2016_SEA_GHG_Inventory_FINAL.pdf

⁴ Environmental Protection Agency, “2014 National Emissions Inventory (NEI) Data”, 2014, <https://www.epa.gov/air-emissions-inventories/2014-national-emissions-inventory-nei-data>

⁵ Dr. Yifang Zhu, Rachel Connolly, Dr. Yan Lin, Timothy Mathews, and Zemin Yang, “Effects of Residential Gas Appliances on Indoor and Outdoor Air Quality and Public Health in California,” UCLA Fielding School of Public Health and Sierra Club, April 2020, <https://ucla.app.box.com/s/xyzt8jc1ixnetiv0269qe704wu0ihif7>

⁶ Weiwei Lin, Bert Brunekreef, and Ulrike Gehring, “Meta-analysis of the effects of indoor nitrogen dioxide and gas cooking on asthma and wheeze in children,” *International Journal of Epidemiology*, Vol. 42, Issue 6, December 2013, pages 1724-1737, <https://doi.org/10.1093/ije/dyt150>

⁷ Irene C. Dedoussi, Sebastian D. Eastham, Erwan Monier, and Steven R.H. Barrett, “Premature mortality related to United States cross-air pollution”, *Nature*, 578, 261-265, February 2020, <https://doi.org/10.1038/s41586-020-1983-8>

⁸ Xiao Wu, Rachel C. Nethery, Benjamin M. Sabath, Danielle Braun, Francesca Dominici, “Exposure to air pollution and COVID-19 mortality in the United States”, medRxiv 2020.04.05.20054502, <https://doi.org/10.1101/2020.04.05.20054502>

⁹ Brady Anne Seals and Andee Krasner, “Health Effects from Gas Stove Pollution,” Rocky Mountain Institute, Physicians for Social Responsibility, Mothers Out Front and Sierra Club, 2020, <https://rmi.org/insight/gas-stoves-pollution-health>

pollution¹⁰. These geographic dynamics are already known in Seattle: community-based participatory research by Puget Sound Sage and Got Green found that 57% of respondents from historically multi-ethnic neighborhoods in South Seattle and South King County experience poor indoor air quality¹¹. Lower-income households may also be at higher risk of exposure to gas stove pollution because of smaller unit sizes, more people per home, older homes with poorer ventilation, and using stoves or ovens for supplemental heat. Lack of access to healthcare, jobs, grocery stores, and more also lead to disparate health impacts for vulnerable communities¹².

The use of fossil gas in buildings also poses safety risks to communities due to the potential for gas leaks and pipeline explosions. According to Seattle's open data portal, there have been 311 calls to 911 for suspected fossil gas risks or odors so far in 2020 – an average of more than one call per day made to emergency services. In August 2020, a fossil gas explosion in Baltimore, Maryland killed two and injured seven people from three row houses in a neighborhood¹³. A fossil gas explosion in 2016 in Seattle's Greenwood neighborhood 2016 leveled two buildings, impacted 36 businesses, and created \$3 million dollars of damage¹⁴. Earthquake risk also makes Seattle particularly vulnerable because highly pressurized gas pipelines run a high risk of exploding during earthquakes.

Electrifying commercial and large multifamily buildings will improve health and safety for Seattle's workers and residents, as well as helping fulfil Seattle's CAP commitment to reducing GHG emissions and mitigating climate change. **Climate Solutions urges SDCI to move forward with the proposed changes to the Seattle Commercial Energy Code, which eliminate most fossil fuel uses for space and water heating in favor of clean, efficient technologies such as electric heat pumps, and to add restrictions on gas appliances in commercial and large multifamily buildings.**

Sincerely,



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¹⁰ American Lung Association, "State of the Air", 2020, <https://www.stateoftheair.org/assets/SOTA-2020.pdf>

¹¹ Dimitri Groce, Jessica Wallach, Dionne Foster, Hodan Hassan, Jill Mangaliman, Howard Greenwich, and Afrin Sopariwala, "Our Planet, Our People, Our Power," Puget Sound Sage and Got Green, March 2016, <https://www.pugetsoundsage.org/research/clean-healthy-environment/our-people-our-planet-our-power/>

¹² Seals and Krasner, 2020.

¹³ Julio Cortez and Nathan Ellgren, "Death toll rises to 2 people from Baltimore gas explosion," *ABC News*, August 11, 2020, <https://abcnews.go.com/US/wireStory/death-toll-rises-people-baltimore-gas-explosion-72304639>

¹⁴ Evan Bush and Christine Clarridge, "Seattle explosion leaves heart of Greenwood a gigantic mess," *Seattle Times*, March 9, 2016, <https://www.seattletimes.com/seattle-news/greenwood-explosion-destroys-buildings-injures-9-firefighters/>

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