STATE OF WASHINGTON

# STATE BUILDING CODE COUNCIL

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## STATE BUILDING CODE COUNCIL
## PUBLIC HEARING RECORD

**Hearing Date and Time:** **Friday, February 25, 2022, 10:00 a.m.**

**Council Members in Attendance**: Andrew Klein, Chair; Tony Doan, Vice-Chair; Jay Arnold; Al French; Jim Millbauer; Kjell Anderson; Corey Wilker; Bob Hamlin; Caroline Traube; Micah Chappell; Todd Beyreuther; Rep. Larry Hoff; Lorin Lathrop

**Staff in Attendance**: Stoyan Bumbalov, Managing Director; Krista Braaksma; Ray Shipman; John McEntyre; Annette Haworth

**Others in Attendance**: Representative David Hackney, Representative Davina Duerr, Representative Mary Dye, Senator Liz Lovelett, Senator Mona Das, Adam Hutchinson, Alejandra Mejia Cunningham, Ali Lee, Allison Maginot, Alona Steinke, Alyn Spector, Amy Rider, Andi Burnham, Andrea Scott-Murray, Andrea Smith, Annie Phillips, Ariana Ylvisaker, Barry Jostol, Beth Doglio, Bill Sampson, Bill Will, Blair Harter, Brad Liljequist, Brandon Kraft, Breck Lebegue, Brian Emanuels, Brian Healow, Bridgette Dodge, Bruce Corigliano, Bryan Ahee, Caitlin Krenn, Carolyn Logue, Carolynn Moody, Cathryn Chudy, Chris Boroughs, Christine Reid, Coleen Anderson, Court Olson, D Scott Peterson, Dan Kirschner, Dave Nehren, David Morton, David Streeter, Deepa Sivarajan, Don Steinke, Dr. Chris Covert-Bowlds, Duane Jonlin, Duane Lewellen, Dylan Plummer, Gary Heikkinen, Gavin Tenold, Geoff Glass, Glenn Blackmon, Gordon Wheat, Gretchan Blum, Helen Walter, Henry Odum, Hiedi Culbertson, Holly Townes, Ian Casey, Jake Gailey, James O'Neill, Jan Hasselman, Jed Olafson, Jeff Yirak, Jeni Woock, Jim Hedemark, Joëlle Robinson, John Rothlin, Jon Lange, Jonathan Heller, Jonathan Kwong, Jonathan Lawson, Jonathan Lewis, Jonny Kocher, Joseph Szwaja, Kathleen Petrie, Kathy Washienko, Kelly Rankich, Kelly Thomas, Kevin Duell, Kevin Kajita, Kevin Krebs, Kevin Rose, Kimberly Larson, Kirsten Smith, Kyle Bergeron, Larry Andrews, Lindsay McCormick, Lisa Parshley, Lisa Rosenow, Liz Reichart, Lowell Glodowski, Luke Howard, Maddie Smith, Madeleine Stephens, Marcus Lew, Maria Batayola, Marie Carpizo, Mark Heizer, Mark Rehley, Mark Vossler, Martha Baskin, Meghan Anderson, Melinda Hughes, Mike Fowler, Mike Kennedy, Millie Magner, Monica Zazueta, Naghmana Sherazi, Nancy Henderson, Nancy Shimeall, Natasha Jackson, Nicholas Harbeck, Nicolas Garcia, Nicole Morgal, Pam Clough, Pamela Braff, Pamela Colley, Patience Malaba, Paul Knox, Peter Godlewski, Poppy Storm, Rachel Koller, Rachel Wood, Ramsey Cox, Ray Paolella, Rebecca Jordan, Rev. Elizabeth Kearny, Rex Habner, Rich Voget, Rick Marshall, Robin Briggs, Robin Everett, Ron Shughart, Ruth Sawyer, Sam Olson, Scott Novak, Simon Bakke, Skander Spies, Sloan Ritchie, Sophie Doumit, Stephanie Lizza, Stephanie Noren, Steve Gelb, Steven Johnson, Ted McCammant, Tempchin Rick, Tena Risley, Terry Beals, Tess Studley, Tonia Sorrell-Neal, Ty Stober, Wendy Krakauer

| WAC 51-11C, Adoption and amendment of the 2021 Washington State Energy Code, Commercial | **WSR 22-02-076; Update from the 2018 edition of the Washington State Energy Code to the 2021 edition, incorporating changes from the 2021 International Energy Conservation Code and those code changes submitted to increase energy savings and provide better clarity. There are a few instances where two or more submitted proposals that were approved conflict, and options are provided. Testimony on the preferred option is requested** |
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| **From:** | **Testimony** |
| **Representative David Hackney - 11th Legislative District in South King County** | I'm going to talk about performance standards for commercial multifamily buildings. The lifespan of the building may vary between 50 and 100 years, meaning our existing building stock will be around for a long time to come. To meaningfully reduce emissions from these buildings we need stronger standards to reduce energy use and incentives for owners to reach those standards. The 2019 Clean Building Act allows the Department of Commerce to develop energy performance standards for buildings larger than 50,000 square feet and provide incentives to encourage efficiency improvements. To further reduce emissions, Governor Inslee proposes to introduce a new tier performance standard for buildings between 20,000 and 40,9999 square feet. This includes large multifamily buildings. To help them reach these standards technical assistance and funding will be available to building owners. Assistance will be prioritized to serve overburdened communities and low-income populations that experience disproportionate environmental harms. The future is clear our buildings, need to be more efficient and fossil free and I suggest that these building standings performance will assist in doing that. |
| **Senator Liz Lovelett - 40th Legislative District** | I live in Anacortes and represent the San Juan Islands and western portions of Skagit and Whatcom counties. I am here in strong support of the updating of these particular building codes. I was proud to run one of the governor's suite of bills for building decarbonization earlier, and while it didn't make it through the process, I think it starts to set a signal for where we want to go with our commercial buildings. The standards that we set in 2019 are ambitious but necessary for us to decarbonize our commercial sector and was also proud to work on some legislation with Representative Davina Duerr who you will hear from later today about the C-PACER Program that we have helped initiate in order for the private sector to come help provide the working capital for these improvements to happen. And while I know we're focusing on the commercial side; I will say that the success that we've had with programs in the residential sector with our public cooperative utility, Opalco, out on the islands, where they have been doing heat pumps switching for residential purposes, has ultimately led to lower costs for people over time. So, the time is now the need is urgent, I think it's both the right thing to do, and the strategic thing to do and especially since we have so many people innovating in this space and providing both the technology and the workforce, necessary to achieve our shared goals. I hope that we can have our codes reflect the direction that we want to head. |

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| **Representative Mary Dye - 9th Legislative District** | The 9th Legislative District represents six counties in eastern Washington that provide a good portion of the food processing industry. You know, Washington State is a large manufacturer and total output in 2019 was $65.2 billion, in addition, there were 265,000 jobs, manufacturing jobs, with an average annual compensation of $95,700. Every one of these manufacturers will be in compliance under the energy intensive trade expose provisions of the climate commitment act. More specifically for my district, there are 300 food crops produced in my district, and they are all processed in my district, and it provides 164,000 jobs, $20.4 billion, annually, are generated by the food industry, and we are the second largest producer of wine, in the United States. Our top three crops include apples, milk, and potatoes. Potatoes are largely processed in my district, with a good portion of those being exported for McDonald's french fries, we claim that we have 60% of the global supply of McDonald's french fries. The number of therms required for food processing is about 4 million therms of natural gas and they have a 25-year plan for decarbonizing the gas grid. But the thing that comes to mind in this proposal is that when you decommission large portions of the natural gas system writ large. Then you also impact the ability to maintain a robust safe and healthy natural gas system. In my district, we have portions that have just recently invested in canola crushing processing, which was something we've been wanting for a long time, and the places where those processors are locating the natural gas system is fully subscribed, we had a major plant expansion in Othello for french fry production that also lends itself to economic growth in eastern Washington. We're planning on expanding for drought resiliency and adding additional irrigated cropland. All these industries located here because of the energy efficiencies, the access to natural gas. Which you cannot wash your vegetables without some kind of way to boil water and that happens, through the natural gas system. The rulemaking that you are proposing will threaten the viability and the robust ability to provide these services, for your food supply and for the health of our economy. I hope that you will take this into consideration. |
| **Jonny Kocher - RMI** | I work at RMI, a climate policy nonprofit working to accelerate the clean energy transition. Council members, I encourage you to put your zoom on gallery mode and look at the sea of blue backgrounds. These are all the folks who came here today to show support for Washington to begin the process of moving away from fossil fuels in our commercial buildings. These proposals are a modest and necessary step towards the goal of decarbonizing the building sector. Buildings contribute a quarter of all greenhouse gas emissions in our state. Since over 80% of electricity in Washington is already carbon free with 100% required in the future, switching appliances off of burning fossil fuels and on to clean electricity is especially effective. RMI analysis suggests that an all-electric home in Washington reduces emissions by 93% compared to that of a fossil fuel home. 93%, this is not a trivial number. The building sector is large and complex and will not change overnight. Current estimates from the Northwest Power and Conservation Council indicate that commercial building square footage is growing at about 1% per year. When trying to shift an entire industry off of fossil fuels, the first step is to stop making the problem worse. Because of the slow pace in |

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| | which new buildings are built and old buildings are demolished, the power grid will not become overloaded overnight. These proposals will create a very small increase in the amount of electricity, power, and water heating and annually, allowing plenty of time for the grid to be built up to accommodate the growth. In fact, the Northwest Power and Conservation Council noted in their September comment to the Council that even with higher peaks anticipated from building electrification. The Council plans to ensure that the Northwest region has reliable power. We simply cannot continue to add fossil fuel appliances to buildings that we know we need to remove in the next 25 years. It doesn't make sense for our climate and doesn't make sense for the future generations that we burden with the high cost of removing these appliances. This is why the 2021 Washington State Energy strategy suggest that building electrification is the least cost strategy to decarbonize public sector. After hearing specific concerns from groups such as the Washington State Hospital Association and Schweitzer Engineering Labs in September, I reached out to these organizations to see if there are minor edits that we make to the proposal to address their concerns. Our goal is to decarbonize the commercial building sector, but we understand that critical care facilities that are trying to keep medical patients safe have specific resiliency requirements that may necessitate the use of fossil fuels, this code cycle. For instance, hospitals, should be able to use backup power provided by natural gas generators until alternative technologies are more feasible. I plan to work with Washington State Hospital Association to address the concerns and submit a few minor edits to the proposed language before March 11th. Thank you for your time today, and I hope the Council will vote on April 22 to begin the process decarbonize the commercial building sector. |
| **Beth Doglio** | I am a former state legislator. While in the legislature, much of my work revolved around the built environment. In 2019, I prime sponsored the bill that Representative Hackney referred to that created the Clean Buildings Program House at the Department of Commerce. This is the first in the nation building performance standard that currently applies to existing commercial buildings over 50,000 square feet. That same year, the legislature set greenhouse gas emission reduction targets that align with current science, required our electric utilities to be 100% clean by 2045, and invested deeply in electric vehicle infrastructure. Last year, the state passed the Climate Commitment Act, which lays the groundwork to transition off fossil fuels in all sectors. The legislative intent could not be clearer; Washington State will do its part to ensure an orderly well-planned transition away from fossil fuels. What you have before you for consideration is an important step in that transition for our built environment. Commercial Code changes that move us towards using our increasingly clean electricity to heat and cool our commercial buildings and heat the water used in those buildings, tighten the building envelope, while making them solar ready. As our population continues to grow, so does our built environment and, unfortunately, so do the emissions from our buildings. In fact, buildings are the fastest growing source of carbon emissions in Washington State and that's because of the gas that is used for heating, water, and space. Buildings stick around for a long time, as representative Hackney mentioned, these code |

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| | changes offer an opportunity for Washington State to build new buildings that are gas free. You know, local communities are taking this on; Shoreline, Seattle Bellingham, Tacoma, and my own town of Olympia have taken action to electrify their buildings and many more communities wish to do the same. Limited staffing resources at the city level make that super challenging. These changes need to be made across the state, and you are empowered by the legislature to do just that. Now, some will say it's too expensive, but the well-researched Washington State energy strategy found that electrifying buildings will be the lowest cost pathway to meeting our climate goals and are we taking into account the amount of money we are spending to assist families and businesses impacted, for example by the recent flooding or the annual wildfire season, that is only getting longer and harsher and creating air quality problems that contribute to poor health. This is a small step that moves us in the right direction towards an increasingly clean built environment. I urge you to adopt the changes before you. |
| **Representative Davina Duerr** | I guess have three perspectives on this potential change to the codes. I'm an architect, and as an architect, we often have to learn every City's codes are different, and the idea of having one potential commercial reach code is very appealing, because obviously it simplifies the work, creates a lot of consistency across the States. Importantly, it also creates demand and drives down costs for some of the things that the efficiencies that would be produced by this action. I liken it to when we created codes that really made the window industry step up and become more efficient. Now, no one thinks anything of you know those windows they're everywhere, easy to get, and the cost is certainly come down. I also come at this as a Council Member in the City of Bothell. We would love to follow the actions of Seattle and Bellingham. Unfortunately, we lack the staff resources to be able to do something like that so adopting a stronger code that already exists and has been vetted is really very appealing to us. Finally, I come at it as a legislator. I'm sponsoring Bill 1770 which would create a residential reach code and it was pulled from rules, this morning, and I think that the will of the legislature is to make sure that stronger codes are available to drive down our emissions. This would certainly do that. I speak in strong support and hope that you will do the right thing and create this code. |
| **Alejandra Mejia Cunningham – NRDC** | I am here today to speak in strong support of the proposals before you, in particular the heat pump proposals on behalf of my organization that Natural Resources Defense Council. As you already heard from Beth, on buildings are the fastest growing source of climate change causing emissions in the State of Washington. We are well on our way to addressing part of the emissions related to energy using buildings and that is the electric side of the house, if you will, but, as well as we can. Even if we are 100% successful in decarbonizing the electricity sector that will not eliminate emissions from buildings, unless we also deal with the emissions related to burning fossil fuels directly inside those buildings. For that, the only solution we have today is to switch to highly efficient electric heat, which is also, as you heard from Beth already why the 2021 State Energy Strategy found that electrifying building energy use will be the lowest cost pathway to meeting the state's 2050 climate goals. So, we must start with new construction where we already have |

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| | this proven solution of highly efficient electric equipment that we know today already reduces building costs and most often leads to lower operating costs and where we also know that, starting with new construction involves no decommissioning of existing gas infrastructure, it just means that we're building right from the start. We also know that buildings, it has been repeatedly said this morning, buildings last for a long time. Which is why we must start today. Because, whatever building we don't build right today we'll have to go back and retrofit at a much higher cost, in the future, before 2050. Adopting stronger codes, as Representative Duerr just said, will also send a really strong market signal. It tells the industry where we want it to head and then they'll be invested, they'll continue growing their investment and making it more affordable and easier to access these highly efficient electric technologies. Not just for new construction but later on for existing buildings as well. Representative Duerr mentioned that the windows industry, that's a great example. Another example is that the efficient lighting industry before we used to waste so much energy with inefficient lighting now it's commonplace to have highly efficient lighting. That all started with starting with new construction codes and standards. So, I urge you to please act with the urgency demanded by today's climate crisis and to harness the power of the markets, by giving them the right signal to start building correctly and cleanly from scratch today. |
| **Poppy Storm - 2050 Institute** | I'm the founder and director of 2050 Institute. I have more than 15 years' experience conducting building energy efficiency and decarbonization research analysis and policy design. I've developed energy codes for more than 10 years and helped create this state building performance standard and EUI targets. I also provide a technical consultation on the building sector portion of the State Energy Strategy. Based on my recent in-depth research and policy analysis, I am testifying in support of the heat pump proposals. Today I mainly want to provide some context regarding state admissions limits, the role of new construction, and meeting those limits, why we need these heat pump proposals now and the costs of alternatives. To me, economy wide emissions limits, buildings must reduce emissions overall across the whole building stop 96% by 2050. This reduction must be accomplished across the entire building stock, including existing and new construction. This creates a zero-sum game between new and existing construction emissions, meaning that what doesn't get done in new construction must actually get done in existing buildings or else we will not meet the limits. It's also important to reserve our costly renewable gas as much as possible for key industries that are more difficult to electrify. Minimizing the need for pipeline gas and buildings which do have commercially viable, effective, and efficient electric alternatives is actually a key strategy for protecting industry in our State. According to the Northwest Power and Conservation Council, building population forecast by 2050 commercial new construction will constitute 40% of the overall square feet of commercial buildings in Washington by 2050. Without these proposals, new construction could be and likely would be a significant source of onsite admissions. This means that it's imperative to remove emissions from new construction as soon as possible. The heat pump proposals are an important step in reducing emissions and they should be adopted |

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| | as soon as possible so that when buildings built to the 2021 Energy Code come online in approximately 2025 to 2027 or even later, they emit significantly less emissions, so we really can't wait. There is a very high cost for alternatives, the state energy strategy clearly shows that electrification and high efficiency electric space and water heating is the lowest cost and most strategic building decarbonization pathway for Washington. For example, according to the State energy strategy analysis by 2050 the estimated cumulative costs for keeping combustion equipment and buildings and decarbonizing the pipeline gas for that equipment is $34 billion more than the building electrification pathway. That additional 34 billion more than building electrification will mainly be realized in the form of increased energy costs for repairs. |
| **Mark Vossler – Washington Physicians for Social Responsibility** | I'm here to speak in strong support of the heat pump proposal. I practice cardiology in Kirkland and serve as President of Washington Physicians for Social Responsibility and a King County delegate to the House of the Washington State Medical Association. The human health impacts of air pollution and climate change are well documented in the medical literature and are anticipated to worsen over the coming decades. Furthermore, the process of extracting and transporting gas poses risks to human health, at every point in the product cycle. We have more recently become aware of the health dangers specific to burning gas and homes and commercial buildings. A three-minute testimony is insufficient for me to outline all the risks, but indoor air pollutants increase the risk of asthma, heart attack, stroke, and dementia. Based on all the evidence, the Washington State Medical Association passed a resolution, last fall, highlighting the health risks, specifically associated with burning gas and coal for policies promoting heating, cooling, and cooking in the built environment with low or zero carbon sources of electricity. More recently, over 134 health professionals signed a letter to this Council calling for modification of the state building codes to directly promote building electrification. You will hear testimony debating the economics of all electric buildings, as you consider this, please bear in mind that the health costs of burning gas in buildings in Washington is around $110 million per year. Also consider that the years of life and quality of life loss to Washington residents, as a result of the health impacts of burning gas. You can't put a dollar sign on that, really. We therefore ask that you modify the state building code to actively promote building electrification as rapidly as possible. We believe that this can be done in a manner that also preserves the backup power generation for hospitals and other emergency facilities with some small modifications of the proposal before us. This is an excellent step in the right direction. Require electric heat pumps in all new commercial multifamily buildings in our state. |
| **Maddie Smith - Earth Ministry/Washington Interfaith Power and Light (WAIPL)** | We are a multi faith, statewide organization representing almost 6,000 people of faith and 300 plus congregations and houses of worship. The faith community cares deeply about environmental justice and clean buildings. In fact, 178 people of faith across the state have signed a letter asking the State Building Code Council to adopt a commercial and large multifamily energy code that exemplifies care for our common home and aligns with our faith values of justice and sustainability. A code that requires electric heat pump technology for water and space |

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| | heating. We'll be submitting the final version of this letter by March 11 but wanted to share today that there is widespread support among the faith community for an energy code that prioritizes health, the environment and climate justice. Continued dependence on polluting fossil fuels, especially fracked gas is not faithful and during existence of fracked gas infrastructure in buildings will increase indoor air pollution and subsequent health risks perpetuate reliance on dirty fossil fuels, promote more fracking often on indigenous lands and exacerbate a changing climate that disproportionately impacts those already on the margins. We have a moral obligation to address historic and enduring inequalities caused by pollution, many of which are crystallized in our fossil fuel infrastructure. Our diverse religious traditions all teach us how to love our neighbors, steward the earth, and work for justice. In response, we are doing all we can to shift to clean energy in our houses of worship and homes. We need you to ensure all new commercial buildings and large multifamily homes in Washington complement our individual dedication to environmental stewardship and propel us toward our state's local and statewide climate and sustainability goals. Together we can create a future where no one's health or land is sacrificed to heat the places where we worship, shop, or live. We call on the State Building Code Council to take meaningful and swift action by updating the commercial and large multifamily energy code to prevent future buildings from being heated by burning fossil fuels. |
| **Dr. Chris Covert-Bowlds** | I'm family doctor in Seattle and member of Washington Physicians for Social Responsibility. I support this proposal very strongly, as does WPSR. Research shows that buildings are the primary cause of combustion pollution related early deaths in Washington State, due to their contributions to air pollution, even when the appliances are working correctly, people spend the majority of their time indoors. Up to 90% of their lives and indoor air can is estimated by the EPA to be two to five times more polluted than outdoor air. Especially communities who are suffering worse from air pollution, often low-income, communities of color, have higher risk of death from pollution and lower income households are much higher risk due to gas stove pollution, because it's smaller unit sizes, more people in the homes, older homes with poor ventilation and having to use stoves are ovens for supplemental heat. Especially now, with the COVID pandemic. This creates additional urgency to reduce the use of gas in buildings, because small increases in long term exposure produce major health effects higher exposures to nitrogen oxides in particular matters are correlated with higher risk of death from COVID-19 for particularly for people over the age of 65. So, we know that using highly efficient heat pumps will be essential to keeping vulnerable people safe during increasingly extreme and deadly heat waves, or wildfires, especially for homes<br>that would not be able to afford air conditioning and for people who are bedridden at the highest risk of heat related health impacts. |
| **Rick Marshall** | I'm a residential developer working in Camas, in the east part of Clark County. I very much support the heat pump proposals and would love to see these building best practices adopted industry wide as soon as possible. Clark County, like most of Washington has a real housing shortage. We've built a lot of single-family residences but not much |

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| | multifamily. Our experience is that there's a huge demand for high quality multifamily housing, especially if it's located you know, in a walkable area with access to food, transit, shopping, and other amenities. The development industry is getting better at constructing the energy efficient and healthy buildings and we need to make sure that the public sees that these larger you know really hard to miss buildings are part of the solution and not part of the problem. The public can't easily tell if a building is emitting pollution, you know or is an energy hog, and I think they'll assume the worst if some buildings are still being built badly. We have a shot at awesome branding for midrise and multifamily construction if it is done right. You know, a high quality, building is going to look better and perform better it's naturally going to be more energy efficient and when a building sips energy instead of guzzling it then then heat pumps are really the only logical solution, especially now that AC is becoming a must have for all types of housing. You know our experience is that wildfire smoke, heat domes, and working from home all mean that AC is now required and not you know just a nice to have. The first two are really a life safety issue, and I think AC may come to be viewed as similar to fire sprinklers, in time. Building more housing of all types, is our only shot at maintaining affordability. Large, high-quality, energy efficient, multifamily, and mixed use has a very important role to play and is crucial for us to hang on to our seniors, our young families, and smaller households. These buildings need to be healthy for their occupants and their neighbors. We can't afford for these buildings to be demonized, as you know, pollution towers or seen as using more energy than their share. Multifamily is already a tough sell in many parts of Clark County. It would help, a lot, if through the building codes, the public was reassured that these large, energy efficient, buildings and really homes, to many people, are very much part of the solution and not part of the problem. |
| **Holly Townes** | I'm a licensed mechanical engineer who has specialized in energy efficiency and buildings my whole career, about 40 years. I am a long time, Washington resident and during my career, worked for two utilities in the State and have been active and ASHRAE, both locally in the society level. I'm also the proud owner of a heat pump, that replaced the gas furnace and fared very well without backup strip heating in the record recent cold and heat. It changed little my energy bills, though I had to change my filter prematurely, since it was brown from the smoke from wildfires. Buildings are the second largest contributor to greenhouse gases. All buildings will need to be addressed in the coming years to meet our climate goals. I'm here to support the proposed energy code to increase efficiency and largely eliminate the use of fossil fuels for water and space heating. Your MEV TAG and the technical community, such as ASHRAE, agree that moving to heat pumps is the next logical step in fighting climate change in buildings. I want to point out that ASHRAE is not an environmental group, but an international society professional that set standards for the HVAC industry and they believe that this is the way to go. The state energy strategy of 2021, the analysis determined building efficiency and electrification is the least cost option. These buildings will be around for a long time, it will be far cheaper for consumers and developers to make these changes at the |

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| | time of construction than having to retrofit. New energy codes are the best way and easiest way to slowly move away from fossil fuels. As a mechanical engineer, I know these proposals and technologies are sound and proven approach. In retirement, I volunteered to advocate for thoughtful informed and reasonable actions to fight climate change in the building sector. This proposal is just that. In truth, I don't think it actually goes far enough, but despite the many compromises the TAG made for stakeholders, this proposal is a concrete step forward. I would like to also point out that the argument that these codes will increase the cost of energy for low-income people does not hold water. The new multifamily buildings, addressed by this code, uses electric strip heat not gas. When I worked for PSC, I was offering incentives for multifamily developers to switch to gas and got no takers. Heat pumps us about a third of the energy and that for the proposal will lower energy bills for low-income residents. I personally will not financially gain if this transition is delayed, but I have a lot to lose economically and health wise if we do not act now. I'm asking you to act on this, the requirement to move on our climate goals. |
| **Duane Jonlin - City of Seattle** | I'd like to dispel a few myths that you'll hear repeatedly today: grid-load, housing costs and supply chain issues. Grid load: Our commercial building stock grows at about 1% a year and about a quarter of its energy currently uses gas so switching to electric resistance would mean maybe a 1.3% growth in that load. However, heat pumps use way less energy, even on cold days and the electric resistance buildings will also be switching to heat pumps. This code reduces electric use in many other systems like lighting and so forth. It's more like 1.1% growth, instead of 1%. Maybe over the next decade, we see 11% growth, instead of 10%. Even if I was all wrong, and the impact was doubled, that we still be talking about a 12% increase over a decade, instead of 10 and that 2% is hardly a crisis. Housing costs: You'll hear about the impacts on affordable housing costs but not to worry there's an exception that allows enough electric resistance heat to keep apartments comfortable, so they won't have to change the way they already build these apartments. One type of central heat pump water heating works well, all the way down to five degrees so for just an extra $800 an apartment. You can have that heat pump water heating. Altogether we figure, a total of uptick of only about $1,000 an apartment and it protects attendance against future spikes in gas prices, like we'll probably see this month. Supply chain: You've all heard about the difficulty of everyone's having with equipment deliveries right now, how distributors are jacking up their prices, but take a look at the calendar someone applies for a permit after the code goes into effect in mid-2023 they get a permit late that year and start digging a hole, pouring concrete maybe the fastest projects will be getting their mechanical equipment delivered in middle or late 2024 so that's already two and a half years from now. By which time I'm sure we're going to be up against some new crisis, but this log jam in Long Beach Harbor is going to be a thing of the past. I get that the gas industry is not thrilled about having fewer customers and that the construction industry is not thrilled about switching to different mechanical systems. But this is the most meaningful action we can take to significantly reduce both energy use |

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| | and carbon emissions in our new commercial buildings and it showcases the leadership and innovation that Washington State is famous for. |
| **Don Steinke – Climate Action of SW Washington** | I encourage a yes vote to approve healthy air by approving the heat pump proposals. I've been an advocate for clean energy for 50 years. It's always a contest between special interests and the greater good. Between short range and long-range value. Gifford Pinchot was the first head of the United States Forest Service. He said that public policy should do what is best for the most people, for the longest time, with the least harm. The State of Washington has adopted the goal of reducing emissions 50% by 2030. Those goals are consistent with the best available science. I'm a member of the City of Vancouver's Official Climate Action Roundtable Committee. Our goals in Vancouver are more ambitious than the State goals of reducing emissions. The Deloitte Economics Institute said yesterday that failure to act aggressively on climate change could cost the US economy $14 trillion in 50 years. It also said that our economy would gain $3 trillion over the next 50 years if it accelerates toward the path of low emissions. I used to think we can move north when global warming became worse, but British Columbia had record high temperatures during the Heat Dome event, last summer, and more than 100 people died. That was compounded by the floods and record fires in British Columbia that cut off roads. As a result of our accumulated emissions, let's not make the problem worse. It will be impossible to meet our state goals, much less our city goals without the heat pump proposals. Please approve of them. |
| **Cathryn Chudy** | I'm a retired mental health therapist and a longtime resident of Vancouver, Washington. The past two years have been challenging with many of us forced indoors not just due to the pandemic, but as we experience directly the worst impacts of catastrophic climate change. Wildfires brought us toxic air in September of 2020, followed by an intense ice storm in February of 2021. And just months later, the oppressive heat dome descended followed by scorched vegetation and widespread drought conditions. As a senior citizen living in an old house with an aging gas furnace and without air conditioning, I endured the heat as best I could. While aware that many around me with health conditions struggled to survive and some didn't make it. A month later, our city council directed city staff to press forward developing an aggressive Climate Action Plan committing to lowering heat trapping greenhouse gas emissions municipality and community wide. I'm grateful our State takes the climate crisis we're in seriously and that Vancouver's following suit, along with other cities across the state with an all-out effort to take action to address the adverse climate impacts, we are all experiencing. At the local level, our city needs all the help that can get to pursue effective actions that lower emissions as soon as possible, where we can. Which is why I am here to urge you to advance the state energy code to align with climate goals and require clean electric heat pump technology in new commercial buildings. Using efficient electric heat pumps for space and water heating is a significant key to reducing climate related health impacts with community public health and equity co benefits. The Washington health disparities map assesses the census tract I live in, as having the highest level of |

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| | environmental health risks, which makes lowering emissions to improve public health and urgent need for me and the people who live around me here in Vancouver. Our2021 Washington State energy strategy concluded that electrification along with energy efficiency is the most cost-effective pathway to reducing carbon emissions in buildings which means an economic as well as a public health benefit from taking this action now to transition new commercial buildings away from fossil gas and into an energy efficient healthy future. The recommendation is for policies and actions to implement and electrification strategy in Washington buildings, which is why so many of us are here, urging this specific code update today. The time for this significant energy code update is now. What you as a Council decided, will impact greatly the health and wellbeing of so many of us living and working in our communities, which is what is really at stake. Your decision to approve the heat pump proposals can provide assurance that we and our children won't have to wait years more to be healthier and less vulnerable to adverse health impacts related to continuing to burn fossil fuels and buildings. |
| **Lisa Parshley** | I'm here for the City of Olympia as a member of the City Council. I'm also the Chair of the Thurston County Climate Mitigation Steering Committee. I'm here to say that we hope you vote yes because this will help us. Let me just kind of go through a few reasons, because I think a lot of people have already covered some of the major ones. The lithium will not only be impacted by our weather, like the heat dome last year and the smoke from fires. We're also going to be seeing sea level rise with potentially 100 K tides, which could flood our downtown by 2050. Not only are we interested in preventing climate change, for all the weather and heat reasons climate justice, but we also have to protect our downtown because we are going to be impacted by sea level rise. Second, Thurston County climate goals match the City Council's kind of goals. We have a spectrum, that is very similar to the state, except for our built environment is 62% of our greenhouse gas, unlike the state which is 26% and that largely has to do with where we get our electricity from. The next thing is, our goals go from 2015 to 2030 and 2050 and what we have is instead of a decreasing climate greenhouse gas we've actually increased 15% from 2015, which is our goals are set by. We have even a further effort to do to make sure ours matches. Any building that we build this year, next year, in the next 10 years will be with us 50 to 100 years. These buildings will be impacting our ability to get to our goals. Heat pumps, hot water heaters, these are critical to us we're making our goals. We need the State Code Council to be able to help us with this. Lastly, just think about this we're putting a lot of effort into housing for our housing crisis and our homelessness crisis we're going to see a marked increase in multifamily housing in the next 5 to 10 years. Making this code come true, we'll make sure that all those housing units are going to match all the local jurisdictions stated goals and the State goals. So please, from the City of Olympia, from Thurston County Climate Mitigation Committee, we need the State Building Code Council to vote yes on this, so that we have a chance to meet our stated goals and the State has a chance to meet their stated goals. |

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| **Paul Knox** | I'm an affordable housing consultant, also a small landlord and project developer. I appreciate the Building Code Council is considering adopting an updated commercial energy code that aligns with urgent modernization needs, in these times. I strongly support commercial energy codes, it requires electric heat pump technology for water in space heating and I've outfitted my rental homes, with the like. My research has shown that all electric buildings are cost effective for both developers and occupants. They are cleaner for both employees and residents. They are a simpler infrastructure which saves money and spurs innovation and, as others have said, moves the industry in the right direction. Also, cities and counties are moving ahead with all electric ordinances that's great but that's piecemeal, we need it at the state level that's inefficient to have just different jurisdictions doing it in different ways. Affordable multifamily housing is crucial to help low-income residents, people have talked about that. Those residents need buildings that will protect their health and safety. And electric heat pumps surpass, greatly surpass, other heating and cooling systems from both an economic and equity and sustainability perspective. We've been slow responding to our climate warming crisis and we need to get on it now. I know change is hard but it's so necessary and I really want to thank your efforts to advance more modern building code. |
| **Martha Baskin – Sierra Club** | My comments spring from my work with the Sierra Club 350 and years covering the environment, climate, and small farms. I began expressing concern about climate change in the late 1950s, then in 1988 NASA's James Hansen testified at a senate meeting that he was 99% certain the earth was warmer than it had ever been measured and that there was a clear cause and effect relationship with burning greenhouse gases coal, oil, gas, and global warming. Many took notice but many did not until the repercussions of the climate crisis could no longer be ignored. In our own State, wildfires destroyed forests, communities and droughts and flooding, that make farming and food we rely on, all but impossible. Clean energy solutions have been adopted in many sectors across the State, including for building codes in Seattle, Tacoma, Shoreline, and others but they've not yet been adopted statewide. Since commercial buildings are one of the largest and most rapidly growing sources of climate pollution. Many testifying here, hope that the State Building Code Council will recognize the urgency of the moment. The urgency of the crisis and take immediate action by developing the most climate smart building energy codes in the nation. In a climate crisis, there is no place for any fossil fuel, coal, oil, gas, if we want a livable planet. Gas has long been promoted as a bridge fuel; a fossil fuel that could help reduce emissions while clean alternatives are harnessed. But methane leakage, a fast-acting greenhouse gas has enormous, short-term impacts on climate. Methane leaks at every stage of gas production in transportation, making it the greenhouse equivalent of coal, according to some studies. Thank you for considering the proposals before you which keep climate science and the reality on the ground by restricting gas installation and requiring high efficiency, energy pump. |
| **Joseph Szwaja** | I'm in support of the proposal from a coalition, including the Sierra Club 350 dot org. I'm a retired public-school teacher. My testimony is in the form of a song. Here you go. It's called, "Let's all Electrify." Hey folks, |

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| | we got to electrify. About to tell you all the reasons why we must all electrify for all our lives, homes, and buildings. You know we've got to electrify. Can't let another year go by. Let's think about the future of our sweet grandchildren. Now, if you help us electrify, you go down like a hero. Everyone will know you helped to get our emissions down to zero. So, let's all electrify. It's said lower emissions and fewer people died with fracked methane gas, which makes our planet fry. We go to electrify. It heats up fast for super pizza pies. Let's do it now, can't let time go by. Unnatural gas, it sure is a fossil fuel. Don't let the industry watch us and play us all for fools. So, let's all electrify. Let's look our young folks right in the eye and say we fought for their future by helping to electrify. |
| **Andrea Scott-Murray** | I've lived in Washington State my whole life and I am going to give a first-person account. There's a lot of numbers, a lot of industry expertise, but I want to talk about my experience during the heat dome. I am a person who's had asthma and respiratory issues my whole life. My father had it, my son also has it. The place I was living was comprised of old leaky windows and doors, no exterior wall insulation, no air conditioning or filtering and an older gas furnace. Even before the official advisory was given, I noticed I had no energy, I was barely able to get the minimum done. I went to get a prescription for my emergency breathing medication and there's nothing available because so many people have already been impacted in British Columbia. In addition, I find it difficult to read when the temperature gets to be more than about 90 degrees. During the heat dome event, the temperature in my house went up to 112 and 113. I felt like a heavy pile of rocks was piled on my chest, limiting each and every breath. A panic sets in, and the only thing you can do is keep breathing and wait till the air is cleaner and the temperature goes down. I just laid in bed and hydrate. There's no brain power left to distract myself with TV, a game, a book, just the determination to not panic anymore and wait for the air to get cleaner, wait for the temperature to go down. As the climate crisis worsens our resources will be stretched ever thinner over more and more difficult and possibly deadly climate related events. I look at the skylines in Seattle and Tacoma, I see all the cranes building large buildings and I can only think about the emissions coming from those new buildings over 50 to 100 years. We miss must harness our resources now improving building envelopes and require all electric building efficient electric heat pumps and hot water heating will improve health outcomes and lower medical costs as well as move us toward a more sustainable future free of fossil fuels. I wholeheartedly endorse these changes to the building codes and support highly efficient electric heat pumps. |
| **Dr. Pamela Braff** | I am the climate program manager for the City of Olympia. Thank you for the opportunity to speak today in support of the heat pumps base and water to the proposals. I am an earth scientist by training with a background and climate impacts research and analysis and I can tell you, without a doubt, the impacts of climate change are here and now. This is not just a problem for future generations or people in other parts of the world, but a crisis we are already facing here in Washington. You've heard multiple speakers today mention the record-breaking heat waves, the Pacific Northwest experienced last summer. It's important to remember that this event would have been virtually impossible without |

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| | climate change and if our emissions of heat trapping gases continue at their current rates a heat wave of that magnitude could occur every five to 10 years by midcentury. Events like last summer are a very stark reminder of the importance of climate action and thoughtful energy policy. Washington's buildings are currently a major source of heat trapping greenhouse gases, exacerbating the impacts of climate change both locally and abroad. But our buildings also have the potential to be a part of the climate solution. We can save energy and reduce carbon emissions over the lifetime of Washington's buildings by adopting reliable energy saving technology like heat pumps and heat pump water heaters. We can increase community resilience to the climate impacts you're already experiencing by constructing energy efficient buildings that do a better job than maintaining safe and comfortable temperatures during extreme weather and power outages. We can ensure that building owners and tenants are not faced with future costly retrofits for the price volatility of fossil gas. Like many communities across the state of Washington, Olympia has that ambitious climate goals. We know that we will not be able to achieve these goals without phasing out fossil fuels. To avoid the worst effects of climate change, we must begin this transition today. The Building Code Council has the opportunity to help the state and local governments, like Olympia, achieve these in a consistent manner. Now is the time to act. Buildings are a long-term investments and the language implementation of energy saving policy will only lock in decades more of easily avoidable climate pollution. Please pass the proposed updates to the Washington State commercial energy code to electrify are building and phase out fossil fuels with clean electric heat pumps and heat pump water heater. |
| **Dr. Breck Lebegue – Washington Physicians for Social Responsibility** | I'm a public health doctor with Washington Physicians for Social Responsibility, and I am speaking in support of electrified buildings. I'm a grandson, son, and brother, a family of builders. During my 40-year medical career, I remodeled every home I lived in, and I always preferred cooking with gas, just like the old commercials. It's fast, easy it's a whole lot cleaner than the woodstove my grandmother used. But, in this century, we know better, and we got better choices. Although transport like road and rail that use liquid fuel is responsible for most Washington greenhouse gases, we're working on that. Natural gas in our homes and commercial buildings, has had its day. It's time for clean energy electric heat exchangers and ovens to keep us warm and well fed. We doctors make decisions based on facts and evidence, as my colleagues have already testified most indoor air is worse for our health then the fresh outdoors. Whether it's COVID, virus, chemicals in paint, or carpets, mold, or burned hydrocarbons from a stove. As an air force flight surgeon, I worked with environmental engineers to test the air quality for chemicals and pathogens with expensive special sniffers. Everyday folks don't have that luxury. But we can choose to prevent busted by products with building codes that incentivize nonpolluting clean electric appliances in new homes commercial buildings and remodels powered by hydro, wind and solar. And yes, I'll be replacing my own gas furnace with the heat pump. Please help us all, make the right choice to the right building codes to stay healthy indoors. |

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| **Alona Steinke – Climate Action of SW Washington** | I'm an RN, retired after 43 years. Air pollution is responsible for the premature deaths of more than 100,000 people annually in the US. The mutually reinforcing effects of air pollution and climate change amplify hazards, resulting in higher temperatures, more wildfires and smoke and degradation of the health of our communities. As a consequence, we are seeing increases in lung cancer, COPD, heart disease, asthma, and allergies. Our outdoor air is regulated when an industry is known to be releasing more pollution than is allowed by law, they are fined and told to stop. It's well known that poor indoor air quality is harmful to human health, yet it's largely unregulated. Gas appliances pollute both indoors and outdoors, yet they are not regulated. Indoor air is typically two to five times and occasionally as much as 100 times more polluted than the outdoor air. If those levels of harmful pollutants were outdoors it would be illegal. We now know that methane, the principal ingredient, and fracked gas is 86 times worse than CO2 as a greenhouse gas in the first 20 years. After which it remains in the atmosphere of CO2. We also know that methane leaks from its source along the pipeline and at its burner tip. Gas appliances for space and water heating and ranges emit hazardous pollutants both indoors and outdoors. Aside from the health hazards there is safety issue of gas leaks and explosions, which unfortunately are not uncommon. Knowing what we now know why would we possibly think that burning fracked gas inside our homes or public buildings, is a good idea. Overburdened, underserved, and communities of color are particular risk from indoor gas pollution. Increased exposure and vulnerability to climate impacts, coupled with lack of access to public health services already puts these communities at a disadvantage. The climate commitment act will ensure that we do reduce emissions 50% in all sectors by 2030. Delaying action and allowing gas in new buildings will make it more expensive and harder to reach our goals. Let's build now for a healthier safer future. |
| **Andrea Smith – Building Industry Association of Washington** | I'm here today on behalf of the BIAW. We're a trade association that gives a voice to 8000 members that represent builders, remodelers, and skilled trades professionals in both the single family and multifamily center. Not surprisingly, I'm here speaking opposition to the two proposals that severely limit energy choices for Washington multifamily builders and will detrimentally affect families that can least afford to bear the burden of restricting use of natural gas and propane in multifamily buildings, without a comprehensive plan to meet the energy demand affordably. We are opposed to the heat pumps, water heating proposal, as well as the space heating proposal, and you should not be included in the final iteration of the energy code adopted by the SBCC. First, there's no regard for electric grid reliability and it makes assumptions that a statewide electrification effort will be successful and affordable to consumers. What happens when the power goes out? Well, if you have a heat pump, space heating or a water heater you don't have heat you don't have water. With natural gas you do. Turns out people don't want to live near electrical lines or substations either, as well as mass solar farms. The second reason is that there's no regard for reliability of heat pump equipment, for example, I live in an apartment and my heat pump malfunctions, this winter, and I was relying on an electrical space heater until it was fixed. It took about three weeks for a property manager to get |

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| | an experienced technician out and turn out the issue was improper installation at the time of installation. Reason number three is that heat pump systems are a major financial investment that will be passed on to renters. For example, the US Department of Energy reported that heat pump water heaters can add up to $500 per apartment unit and according to a June 2021 presentation, given by the Seattle Department of Construction and Inspection, the range of heat pump heating options to services multifamily unions can range from about $8,000 to $22,000 per apartment, depending on the option chosen. So, you can see, there are real costs associated with these proposals and being one of the first states to adopt an outright ban on natural gas will hurt the lowest income families in our state. These family should not have to choose between heating or eating. I sincerely hope nobody on this public hearing has ever had to make that choice. I have and it's severely reduces a person's quality of life. We have a very real rent affordability prices and adding more cost to multifamily construction further prices people out of the ability to shelter themselves. We urge exclusion of these proposals in the final adopting commercial code. |
| **Peter Godlewski – Association of Washington Business** | We represent over 7000 medium, small, and large businesses across Washington State. We are opposed to the proposed code changes 21GP136 and 103, impacting natural gas, space, and water heating. They have three areas of concern with these proposed code changes. The first is related to the process through which these proposals were advanced. We believe that the Energy Code TAG went against the statute when they voted not to perform the required cost benefit analysis on these two proposals when asked to. By declining to perform the analysis, they had presented the Council with an incomplete picture of the true impacts and benefits of the proposal you are being asked to advance. And without key information, you cannot use this to inform your vote. AWB also believes that decisions to ban particular energy sources lies outside the authority of this Council which is authorized to act on matters related to energy efficiency. The justification for these proposals has been that they will help the state and its greenhouse gas goals, not that they will result in any energy savings. In fact, in order to provide adequate heat in certain climate zones, proposals out now realize resistance heating supplement heat pumps because they do not perform in certain climate zones of the state. Something previous codes have banned because they are so energy inefficient. Additionally, RCW 78-045-020 which lays out the state's greenhouse gas goals, explicitly states that these goals are aspirational and creates no new authority for the state to enforce these goals. Finally, individuals concerned about the cost impacts on our small and medium sized businesses who owned and operated buildings impacted by these changes or rent spaces in them. In either case, the higher cost of construction, retrofit, operation will be passed on these businesses in the form of higher rent and will serve as an added barrier just starting or sustaining a business. These policies will have a disproportionate impact on the smallest and newest businesses which, like access to capital help them manage these additional costs. We do not believe that 4% reduction state greenhouse gas emissions are worth the cost these businesses. A cost benefit analysis could have helped provide some clarity in the various assume |

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| | greenhouse gas savings this policy would advance. Throughout the process, Council members have heard that from advocates emissions from buildings are anywhere from 12 to 30% of the state's total. These numbers can play several issues which would not be impacted by these code proposals. According to the Department of Ecology's 2018 state greenhouse gas emissions inventory report, actual direct use of natural gas in the built environment resulting only 8% of the state's total emissions. These other numbers reflect either total greenhouse gas emissions from buildings, which includes oil heat or Katha natural gas used to generate electricity use by commercial residential buildings. Now that these sources will be impacted by these code changes, it is simply not true that all electric buildings will save this money and without the cost benefit analysis which should have been done by the TAG and is inappropriate to allege otherwise. What I can say is that the cost of electricity is more expensive than that natural gas. The federal energy information agency data on cost of electricity compared to natural gas shows up for commercial uses the cost of energy is three times out of natural gas. Additionally, the state energy strategy recommends a scenario in line with these proposals and show that consumers and businesses will pay more under this all electric model. The model does say that the net benefit will be lower to consumers, but only if they purchase an electric car and they're able to deduct the lower O and M costs of an EV against all the other higher costs they would face. AWB opposes these changes. They fall outside the authority of this Council and did not receive the proper analysis called for by law and result in considerable cost balancing. Has very little reduction in greenhouse gas emissions. Please vote no. |
| **Dylan Plummer** | I'm the senior campaign representative for the Sierra Club working on building my education in Oregon and Washington. Sierra Club is a national environmental nonprofit. In Washington State alone we have over 32,000 members and well over 100,000 supporters working for environmental and climate justice. On behalf of this membership across the state, I urge you to accept proposed updates to the Washington State Commercial Energy Code, specifically the proposals regarding heat pumps and the pump water heaters. Buildings are one of the largest and fastest growing sources of pollution in Washington, even as the state's electric grid becomes increasingly made up of renewable energy sources. Buildings are also a massive source of outdoor air pollution. Research at Harvard studies show that in Washington burning fossil fuels and buildings is responsible for 52 premature deaths and over $577 million and health impacts from outdoor air pollution in 2017 alone. 94% of those impacts were from burning gas and buildings, and this is just a conservative estimate. In light of the many studies that have shown that black, indigenous, people of color (BIPOC), and low-income communities are disproportionately impacted by air pollution and resulting in health effects. Continuing to allow buildings to burn fossil fuels is not only climate justice issue, but one of racial and economic justice as well. In addition, according to a recent RMI analysis, passing clean codes in Washington is here and will have significant emissions reductions benefits as opposed to waiting until 2031 when State law will require new buildings be constructed with zero fossil fuel emissions. The |

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| | report states that “A 2022 commercial electrification code in Washington, will reduce 8.1 million tons of CO2 by 2050. By 2050 these code proposals, reduce the total direct emissions from the commercial sector by 14.5%. Because of the accumulative nature of new construction, waiting until 2031 to implement the code proposals will result in significantly more pollution, reducing the 2050 emissions savings by half.” The proposed code update ensures that as we continue to construct large new buildings, we’re doing so in a manner that is equitable and sustainable and in line with the climate commitments made by the governor in our legislature. Washington's always been seen as a climate leader on the national stage. These code changes are our way to act on our commitments and to transition away from fossil fuel use new buildings increase energy efficiency and bring more rooftop solar online. After years of back-to-back climate chaos, in the state, from historic wildfires, unprecedented heatwaves it is clear that it is time for decision makers, at all levels of government, to actually reduce emissions and to create a just transition off fossil fuels. These proposals are broadly supported by Washingtonians, have gone through thousands of hours of review and I've been bedded over the last year with those in the building and design industry. I urge you to take this opportunity to help our state lead on the fight against climate change and approve the proposal amendments. |
| **Jonathan Heller – Ecotope** | I'm the President of Ecotope, research, design, and engineering firm located in Seattle. I've worked in the building industry, since 1986 and been a licensed mechanical engineer in Washington State since 1997. I'm speaking in favor of the heat pump proposals which will help transition our State away from using fossil fuels to provide heating in buildings. At Ecotope, we have been transitioning our design practice away from using fossil fuels for about 10 years. And over the last five years have almost exclusively designed with heat pump technology for space heating. Space heating and water heating and all types and sizes of multifamily buildings, offices, schools, fire stations, libraries, casinos, community centers, hotels, grocery stores, and other types of commercial buildings. This has included he pump water heaters in all these building types. The projects we designed are delivered for typical construction budgets and produce buildings which use about half the energy of typical construction using fossil fuels. Eliminating reliance on fossil fuels, makes these building safer, healthier, more resilient, cheaper to operate and makes them less risky investments for developers. I do want to dispel the myth that reliance on fossil gas will function in a power outage. All modern space and water heating equipment requires electrical power to operate that includes fossil fuel systems, as well as heat pumps systems. Heat pump technology brings with it the ability to provide cooling and access to cooling is an equity issue in our state as our summers have become longer and hotter and smokier, this is a real health and productivity concern for many people of our state. Heat pump technologies are available today to serve every size and type of commercial building in all climate zones of Washington State. More of these products are coming onto the market, every year, driving costs down and providing more options and competition. In addition to expanding training materials to support this transition, |

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| | promoting this transition of our building stock today away from fossil fuels will protect the health and safety of Washingtonians in the future and spur the creation of new job opportunities in design, manufacturing, sales, installation, and maintenance of heat pumps and clean energy systems. The technology is there and ready today. It's time to make this move. |
| **Gordon Wheat – Olympia PSR Climate Task Force** | I'm a retired physician and coordinator for the Olympia Physicians for Social Responsibility Climate Task Force. In my brief testimony, I wish to highlight the reasons why the policy of using gas as a bridge fuel during a gradual transition to renewables must be reexamined and rejected. While I believe this strategy made sense some years ago, the evolving evidence now clearly shows that natural gas is more toxic to human health than we realized. And that the fracking boom and natural gas production is actually accelerating the near term warming to a dangerous degree. On the health front, gas is an important indoor air pollution hazard due to both the combustion of gas and the leakage of unburned gas into homes and buildings. Gas is also a significant outdoor air pollution hazard, particularly harmful ozone smog. Fracking leads to major water contamination problems and other health hazards which fall…LOST CONNECTION. Regarding the climate, we now know that methane leaks are much greater than projected at every level of production and transport and that methane levels in the atmosphere has skyrocketed with the fracking boom. Best estimates are that methane is already responsible for 30% of total human cause climate change and is increasing rapidly. However, there is good news we have achievable and affordable strategies for rapidly decreasing all forms of methane emissions and building code changes are one of the key actions that must be taken now. If we can avoid installing new gas infrastructure with the lifespan of 40-50 years and implementing other methane mitigation strategies, we can plateau and then drive down methane cause warming rapidly. Since methane traps 86% more CO2 heat than CO2 over 20 years but has a short half-life compared to CO2, methane reduction is the critical strategy for reducing near term warming. When the now discredited idea of shifting to gas as a bridge tool was contemplated, we did not possess the evidence that we have now and now we must adapt. I urge this Council to join many cities, states, and businesses in taking up the better buildings challenge from the Department of Energy. Let's help the US beat the methane pledge that we have made with the EU and other countries. It would be an important step to stop the installation of new gas infrastructure in Washington State. |
| **Jake Gailey** | I'm a resident of Lacey, Washington. I'm a licensed architect, who has been working in the residential, multifamily, and commercial building sectors, since graduating Washington State University in 2009. I'm speaking in favor of the proposed heat pump proposals. There are opportunities to reduce emissions now in our state by eliminating the use of fossil fuels in space heating equipment. Burning fossil fuels in the building sector in Washington produced over 18 million metric tons of carbon dioxide equivalent in 2018. The same as the annual emissions from nearly 4 million cars or five coal plants, this is 19% of the total emissions from fossil fuels combustion in the state. Data shows that homes with gas stoves have nitrogen dioxide levels 150% to 500% |

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| | higher than their indoor air in homes with electric stoves levels, which can lead to heart failure and asthma. Eliminating these appliances doesn't mean sacrificing quality of life. In my own home we're replacing the gas range the builder provided us, after being disappointed with the gas range's performance versus the electric induction range, I'd had in my previous home. Electric heat pumps and other systems I've had in my houses are available and function well down to the subzero temperatures and those units can provide both heating and cooling where gas and electric resistance eating cannot. Both building all electric eliminates the cost of and the need to run gas distribution lines are putting gas meters piping and venting. Besides simplifying construction, this also increases the end user safety by eliminating those lines as a potential point of failure. |
| **Nancy Henderson** | I am an architect and owner of a green building consulting business. I've been an architect for 30 years and I'm here to encourage your support of the heat pump proposals for the 2021 Energy Code. We work on numerous commercial buildings throughout the state and also in California, where some of the electrification codes are a little bit ahead of us here in Washington State so we've seen a lot of the heat pump installations, including heat pump domestic hot water, which I know is something that developers and builders are a little bit uncomfortable with. They're concerned about cost and reliability, but it is happening, especially since Seattle has adopted essentially the same rules. I think you know within the year, they'll be much more comfortable with them, so I think, by the time this code gets enacted I think owners and contractors, will be a lot more comfortable with the technology and it'll just be business as usual, so I want to encourage you to support this. |
| **Sloan Ritchie** | I develop and build large multifamily buildings in Washington State. I would like to urge your leadership in support of the commercial energy code that will enable us to meet the state's goal of zero carbon buildings by 2031. As an active builder, I know we have the tools, the technology, and the know how to accomplish this right now. Like Nancy just mentioned and we are very comfortable with the electrified buildings. The sooner we all get started the better, in particular, I support the adoption of a state building energy code that requires the use of efficient electric heat pumps for space and water heating in new commercial and large multifamily buildings. We are already using these systems on several current projects, so I can speak to the viability, affordability, and simplicity of these systems. We are finding on the buildings that we build and operate that the costs are similar to build, yet the operational costs are much lower. In light of the many comments already made as to the reasons to implement these codes I'll keep my comments short. The industry groups that are opposed to the new codes are not terribly surprising, but do not represent my views as a builder or a small business. We are strongly in favor of the new efficiency codes let's do this because it's the right thing to do at the right time and because it's already been shown to be readily viable in many current and completed projects. It's time to take this step. |
| **Natasha Jackson –** | The Northwest Gas Association represents the distribution companies and transmission pipelines that serve warmth and comfort to three and a |

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| **Northwest Gas Association** | half million residential consumers in Washington State. Our members also deliver heat and productive energy to more than 100,000 commercial businesses and almost 3,500 industrial facilities that employs hundreds of thousands of Washingtonians. It's important to note that, contrary to what has been said today, according to the Washington State greenhouse gas inventory, direct use of natural gas and buildings for space and water heat accounts for 8% of the state's total GHG emissions. I want to emphasize that our members acknowledge the climate imperative and the need to act together to decarbonize. We embrace our role in helping the region achieve its decarbonization goals, goals that can be reached by utilizing our existing natural gas system and its infrastructure. We are an important piece of the puzzle when it comes to reaching bold decarbonization objectives. That being said, we strongly oppose code proposals 103, 136, and 179 contained in the CR102. Research by the Northwest Energy Efficiency Alliance, specifically on Washington State's 2030 commercial energy code goals shows that 70% energy use reduction goal can be met, using existing natural gas technologies. Additionally, in the commercial scenarios, that the alliance researched, gas technologies were comparable to electric technologies and energy reduction. This comprehensive research, by an unbiased and highly respected research organization dedicated to energy efficiency, was presented to the TAG but was ultimately ignored. As we noted in our letter to the State Building Code Council, in the past fall, the 2021 commercial energy code process lacked sound reasoning and careful analysis and has instead been biased in the consideration of an advocacy for code proposals 103, 136 and 179. To summarize, we respectfully ask that these code proposals be removed from the CR102. The Council take a step back and conduct a more thoughtful process for achieving Washington's energy goals and utilize the 45,000 miles of safe and reliable energy delivery infrastructure to accomplish the main objectives. We want to be productive partners with the State Building Code Council on developing codes that meet state energy goals. We look forward to working with you, and hopefully you with us in the future when these code proposals are reintroduced with more thoughtful consideration. |
| **Pamela Colley – Schweitzer Engineering Labs (SEL)** | I'm speaking against the proposed code changes, involving the use of natural gas for space and water heating. First, I want to start off by thanking the Council members for the thoughtful way that you've conducted this code cycle. I really appreciate the time and the energy you've put into making this a transparent process that's collaborative for every stakeholder that wants to be engaged and I appreciate the opportunity to address you today. SEL is a 100% employee-owned company that was founded and is headquartered in Pullman, in eastern Washington. We design, manufacturer and help to implement devices that protect our electric power systems. We are a company of engineers. We're deeply passionate about making electric power safer, more reliable, and more economical. As a company of engineers, we understand that supply must meet demand on the electric power grid, or the lights go out. These proposed code changes will push more demand onto the grid and adding supply comes with a cost. We respectfully ask that you please pause Council action on these proposed code changes |

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| | to allow our utility providers to add supply in a way that ensures reliability and affordability for all, especially those who can least afford it. I also want to take a moment to address the idea of innovation. I've heard many Council members share excitement over the innovation, we could see in Washington, as we pursue new and clean sources of electric power. I'm excited to and everyone in SEL was excited because we were so lucky, we get to work with people on the forefront of these innovations every single day. We too, are homegrown innovators. Dr. Edmund Schweitzer founded SEL in his basement in Pullman as he was pursuing his PhD at WSU in 1982. We are now a global company with over 5,300 employees, many of whom are based across the state. Dr. Schweitzer revolutionized our industry with his invention of the first microprocessor based protective relay and he's still inventing things that my physics professors in college thought were impossible. If we do want to encourage that type of innovation, Dr. Schweitzer would be the first person to tell you that the best way to do so is not to box us into one solution, in this case, an electric heat pump, but to keep the door open for innovation to happen. We hope we can work together to make Washington a bright spot for innovators to thrive. We, again, respectfully ask that you please pause action on these specific code proposals to see where that innovation takes us. |
| **Rex Habner – IBEW Local 77** | I am the Business Manager, Financial Secretary for the International Brotherhood of Electric Workers, Local 77. In August, we'll have 125 years of doing business in Washington, Idaho, and northern Montana. I'm a third-generation lineman and in that I have worked for 38 years in this industry in Washington. I have worked on many storms and outages that have went from 1984 to present. On behalf of 8,000 members of the International Brotherhood of Electrical Workers, who I'm also accountable for, I'm writing in opposition for this these code councils on 103 and 136. I want you to know that by taking aggressive electrification restrictions, eliminating sources such as natural gas, you're talking about us. We also have natural gas within our portfolio and who we have is our utilities. We have 87 contracts, all utilities in Washington, under our jurisdiction have provide electricity and gas for the consumers here in Washington. For generations of people in our industry that are primarily utility, both highly skilled men and women, for homes hospitals, schools, businesses major manufacturing. I haven't heard anybody talk about the workforce, how many people do we have to do this work. Right now, building has gone NUTS across Washington, across the west coast. We do not have the people to be able to do all the work that we need to do. And as we just heard from SEL, we are partners with SEL in every one of our utilities. Having the opportunity that there's no windstorm, firestorm, ice storm, weather events interruption of our power grid has never been restored without us. I'm concerned that when we have an all-electric grid which I'm for electricity, why wouldn't I be, is that more generators are being used, then, to continue to have the power on. Generators are a specific danger to high voltage electric workers when they go online if there's not proper disconnects and switches being used. My members are also very excited about alternative sources of energy to come forward. We have hydrogen, that's one possibility, green |

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| | hydrogen, and many things in the future that we can come forward with. It takes 10,000 hours and five years to become a journeyman, lineman, and many of our skilled trades that we have, we cannot reduce the quality of those folks for an emergency that we are we're assessing right now. I urge the Council to take a step back and look at what the utility partners that we have and the workers that we have to do this, to make sure that we're not eliminating one source to provide only one actual manmade source, which is electricity. The gas industry that we have today is a product that we can continue to use, and we can use it safely. I would urge that we would take in consideration on this. |
| **Christine Reid – IBEW Local 77** | I serve as the political director for the International Brotherhood of Electrical Workers, Local 77. Prior to my assuming this role, just over two years ago, I worked with in customer service and billing at a major utility company for over 15 years. I share this with you because I carry with me thousands of stories the urgent cries; when will my power come back on, we're cold, it's freezing. Both commercial and residential calls I hear directly from our utility customers who are desperately looking for answers. Then there are those that are the most vulnerable, they do not have the benefit of family to turn to that still have an alternate heating source to offer as a place to shelter from the cold. Outside conditions may be too dangerous for them to leave their homes to seek out warming shelters. I ask the Committee to consider these people and their stories during our discussions and throughout the policy making process. Then there are workers, over 8,000 sisters and brothers working in dozens of classifications. Those that are responsible for building, maintaining, and repairing our existing infrastructure. I ask that a discussion of workforce readiness be elevated before adopting policies that would allow for single source space and water heating. Our discussions today assume electricity will always be available. I would raise the question, what is the plan for long, extended periods when electric service is interrupted, and electricity is not available. As you deliberate, know that equal emphasis can be placed on natural resources and our human resources. |
| **Lisa Rosenow – Evergreen Technology Consulting (ETC)** | I'm the director of Energy Code Services for Evergreen Technology Consulting or ETC, for short. I manage the technical support program for the commercial provisions of the Washington State Energy Code on behalf of the Northwest Energy Efficiency Alliance and I've been in this role, since 2011. I have also participated as a voting member of the commercial energy code technical advisory group for the past three code cycles. ETC technical support team recognizes that code provisions are only effective if the requirements are unambiguous and enforceable. In our code development work we focus on identifying details where better language could improve code compliance. We would like to share a statement of support for the entire package of code updates, of the commercial energy code, with a particular focus on the heat pumps, space heating, and water heating proposals. Under TAG Chair Kjell Anderson's leadership and through the hard work of all the dedicated TAG members, this package of proposals makes many important enhancements and improvements to the code. They incorporate well established technologies and strategies that collectively |

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| | move the code forward to meet the State's mandate for energy use reduction. In particular, I would like to voice our support for the heat pumps space heating and heat pump water heating proposals. The TAG working group that was assigned to these proposals, which I was a member of, went through a very thorough collaboration process to address concerns put forth by members of the TAG and from public comment, particularly for existing building alterations. The final versions of these proposals that you were considering today, provide a reasonable step forward. Therefore, we encourage the Washington State Building Code Council to vote yes for the entire package of proposals, including the heat pump proposals. |
| **Ruth Sawyer** | I work with the Sierra Club in Washington State. Our thousands of members and supporters have taken action over the years to stop coal trains, get their utilities to commit to clean energy for electricity, stop large, fracked gas projects and pipelines and much, much more. Over this time, we've learned over the years how damaging gas is from extraction to leakage all the way through transport, to burning. We've also heard excuses and ideas about how we can't convert our grid to clean energy without coal, we can't do this, we can't do that we've seen a lot of excuses. Today we are urging you to amend the state building code to require heat pumps for heating in new commercial and multifamily buildings rather than fossil fuel or electric space, in order to provide a reduction in carbon emissions. These code changes are a clear way to act on our commitments and transition away from fossil fuel use in new buildings and increase energy efficiency. The proposals have been vetted over the last year by building and design industry professionals. We are asking you to move forward with the full package of amendments, including the heat pump space heating and water heating amendments. As they say, when you are in a hole, the first step is to stop thinking. Building new commercial building with fossil fuels is a step in the wrong direction. As Maya Angelou said, “Do the best you can until you know better. Then when you know better, do better.” |
| **Jan Hasselman – Earthjustice** | I am an attorney with national nonprofit law firm, Earthjustice. I have been an attorney here since 1998 where I specialize in litigation related to climate change and clean energy. I was asked to assess the question of whether the heat pump water and space heater requirements are preempted by federal law, and specifically the energy and policy conservation act. As someone who has litigated Federal and State preemption claims in court, many times, my conclusion is that this proposal would not be preempted by any legal challenge, based on a preemption period. Federal preemption of local regulations is very difficult standard to meet in court that's because our system preserves the maximum latitude for state and local governments to regulate in their jurisdictions to protect the health, safety, and welfare of their citizens. Congress does not intrude lightly on that authority and to preempt local action, it must express its intent do so in completely clear and unambiguous terms. Under EPA, the Department of Energy sets federal efficiency standards for different categories of appliances. EPA does preempt states from enacting regulations regulating the efficiency of appliances which there's a federal state, as Department of Energy has explained, this prevents states from attempting to do, at their level, what |

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| | the department does at the federal level. State and local limitations on what kinds of appliances may be used in different situations do not conflict with that preemption provision. Three cities in Washington and at least 36 cities and counties in California have enacted some form of electric codes, many of them very similar to the one of the Council's. Only one of them, the code enacted by the City of Berkeley was even the subject of a legal challenge and that challenge was unsuccessful. While the case continues, Berkeley is joined in its defense by U.S. Department of Energy, and multiple states, including Washington, National League of cities, and many, many others. If this Council's adoption of the heat pump proposal was challenged in court, I'm confident that it would be similarly supported and that you would be similarly validated, in court. This proposal, like the ones in Berkeley, Seattle, and many other places, is not concerned with how efficient any type of appliance must be instead it requires the particular kinds of appliances in specific situations. Just as a state or local government would have the authority to limit the placement of a gas burning furnace and, for example, a children's asthma ward, this Council has the authority to limit their placement in new commercial construction. In short, while this Council cannot adopt a different efficiency standard for covered appliances than one prescribed by law, you can adopt standards regulating the time, place, and manner in which those appliances are used. Not only does this Council have the authority to do so, but it also has the obligation. State legislature has identified pressing the climate crisis, as the top priorities of government, established ambitious greenhouse gas reduction targets and explicitly directed this Council to adopt codes that move us towards zero greenhouse gas emissions in homes and buildings by the year 2013. Federal law does not restrict your ability to meet these critical obligations. I urge you to adopt the code proposals. |
| **Deepa Sivarajan - Climate Solutions** | I am the Washington Clean Buildings Policy Manager for Climate Solutions, a nonprofit working to accelerate our clean energy transition in the Pacific Northwest. I am very happy to be here today in strong support of these codes, particularly the heat pump proposals. Starting our transition off fossil fuels is a climate imperative, and we need to begin as soon as possible. The commercial and large multifamily buildings that we construct today will last for decades. The state is under statutory requirements to reduce our greenhouse gas emissions 95% from 1990 levels by the year 2050 and, as many others have mentioned the 2021 State Energy Strategy developed by the Washington Department of Commerce found that electrifying all our buildings will be the lowest cost pathway to meeting the state's climate goals. Because when we think about costs, we have to take into account the health and adaptation costs associated with climate change, and the costs of future clean energy retrofits for buildings that are constructed with gas and other fossil fuels, today. Clean electrical appliances, like heat pumps, also protect our health and safety, particularly for our frontline communities, the communities who are suffering the worst from climate air pollution, which often are low-income communities of color and linguistically isolated people. These communities have higher risks of death from air pollution, in part due to the historical impact of redlining |

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| | and other policies that have led vulnerable populations to be pushed to live in places with greater exposure to air pollution. Using highly energy efficient heat pumps both takes advantage of our clean electricity and creates resilience for these communities by providing air cooling benefits during hot summers and lower energy use overall. Over the past year and a half, I've been working closely with local governments that were mentioned by Beth Doglio earlier, including the cities of Shoreline, Bellingham, Seattle, Tacoma, and Olympia who've already passed policies towards building electrification and then many more, whose work is still in progress. Local governments need support from this Council to set the standards across the State, reducing the burden on local government staff and making sure that there's an even playing field for cities and counties that do take action on climate. I urge the State Building Code Council to adopt the heat pump and energy efficiency amendments to the Code in order to protect our health and safety, create clean energy jobs, and act on climate. |
| **Reverend Elizabeth Kearny** | I am an ordained Presbyterian pastor living on occupied Cowlitz lands in Longview Washington. I'm here today to urge the State Building Code Council to adopt a commercial and large multifamily energy code that exemplifies care for our common home and aligns with our faith values of justice and sustainability. I support a code that requires electric heat pump technology for water and space heating. Continuing the use of fracked gas in our buildings as both a major source of climate pollution and a serious environmental issue as indoor air pollution caused from gas stoves is much worse than previously thought. Continued use of gas requires continued fracking on indigenous lands and all the injustices that go with that. I speak in this manner today as a person of faith, a faith leader who believes that this Earth is beloved by our creator and that humans, like us, are created to be partners with the divine in this care not oppressors extracting for our own gain. I have spoken up in my own community, in the past, in opposition to both the methanol refinery they were trying to put down the river from me and Kalama, and the coal terminal they were trying to build in my own town of Longview. Both of which would have increased my community's reliance on extremely harmful fuel sources. I'm very grateful to say that both were halted because of the community speaking out, as you hear on this call today. It's in that same spirit of resisting reliance on harmful fuel sources that I speak to you now. Buildings are the State's biggest contributor to planet warming greenhouse gas emissions and local jurisdictions in Washington. As you've heard this morning are already making these moves to sustainability in places like Bellingham, Seattle, and Shoreline with new requirements for commercial and multifamily buildings to be heated with electricity instead of gas. Whether we believe it or not, the Creator has made all of us to belong to each other and to our plant animal and earthly relatives, we are inextricably connected. Today, you have the power to act on behalf of all our survival and thriving by adopting a code that refuses to rely on gas and embraces electric technology for the future. |
| **Kevin Kajita** | I am the System Director of Support Services for Evergreen Health. We are a multi hospital healthcare system serving the region surrounding Kirkland and Monroe. I'm also a board member of Washington Society |

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| | of Healthcare Engineers and Chair of the Organization's Advocacy and Sustainability Committee. I testify today with concerns and recommendations about space heating proposals in Chapters 403 and 503. Hospitals top priority is to keep patients safe under all circumstances 24 seven 365 days a year. Because of this, the centers of Medicare and Medicaid services require hospitals to have at least 96 hours of backup power available in the event of a power outage. This is a mandatory condition for CMS accreditation that ensures we are ready to serve patients if our power supply is disrupted. Our hope is to use our generators infrequently but in recent cases of extreme weather, wildfires, and flooding, have caused hospitals, throughout the state, to use their backup power systems. Hospital's backup power system is currently provided by onsite fossil fuel generators, which is the only available technology to meet the high-power demands within a hospital facility. Battery technology is not feasible on the scale of power needed to power a hospital for at least 96 hours. Because of this, we are concerned about C403.1.4. This section prohibits the use of fossil fuel combustion appliances for HVAC heating, which would challenge new hospital buildings, since we need to have the ability to connect their HVAC systems to their backup power systems, so that we are prepared, in the event of an emergency. Hospitals recognize that Exception 9 provides a limited exception for healthcare purposes. But this exception is subject to the discretion of local code officials and limited to specific areas of the building. Because of this we recommend that the Council add a new exception for critical and essential facilities. That, by regulation, are required to have in place redundant emergency backup systems. This will help ensure new hospitals are compliant to the code and other State and Federal regulations and that Washington State hospital association will provide language as a follow up of today's hearing. Our recommendation is also important to consider the options presented in C503.4.6 since both options require compliance of C403.1.4 for replacement of existing equipment. Our preference of the two options in C503.4.6 is option two, since it explicitly addresses like equipment replacement, however, if our proposed exception and option one are adopted then hospitals will have the certainty necessary to replace existing equipment, without being out of code compliance. |
| **Jonathan Lewis – KVH** | I'm the Director of Support Services at Klickitat Valley Health, a critical access hospital located in Goldendale, Washington. I'm also the immediate past president of the Washington State Society of Healthcare Engineering and I'm very passionate about advancing clean energy technology and healthcare facilities. I'm also here, today, to offer recommendations on the proposed water heating options of C404.2 and C503.5. Hospitals water heating needs are complex and require large volumes of hot water to be ready at all times to meet the needs of patients, staff, and visitors. For most hospitals fossil fuels are the primary method of powering water heating systems capable of serving patient care areas, steam sterilization, food service, laundry facilities and all other areas of the hospital where hot water is necessary for safe patient care. Moreover, current fossil fuel powered water heating systems can remain powered when the electricity is disrupted, which ensures that we can continue to have hot water available as our backup |

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| | power system is engaged. Because of this, hospitals urge the Council to adopt option one in C404.2, which would give new hospitals the option of choosing between high efficiency fossil fuel powered water heating equipment or electric heat pump hot water when designing facilities. This will ensure that hospitals can choose the water heating source that is best suited to the facility and its location. Hospitals also recommend adding a new exception to the list in C404.2.1 with clear language to provide specific exception for critical and essential facilities that by regulation are required to have in place redundant emergency backup heating systems. Doing so will ensure hospitals are prepared for the worst and the Washington State Hospital Association will submit the specific language, following today's hearing. Proposed option two in C404.2 does not allow this flexibility by prohibiting the use of fossil fuel outright without exception for hospitals or other healthcare facilities. The lack of exceptions is important to consider when evaluating the option in C503.5 that apply to existing buildings. If proposed option two in C404.2 and proposed option one C503.5 are adopted together, than it appears existing fossil fuel powered water heating equipment would not be replaceable with more efficient fossil fuel powered models, which could create challenges for older hospitals, like mine. Which is why hospitals urge the Council to adopt option two in C503.5 due to its specified allowance for equipment replacement without being out of compliance with the Energy Code. Hospitals recommend the adoption of option one in C404.2 with a new exception for backup systems and critical and essential facilities that will be submitted by the Hospital Association, and we recommend the adoption of option two in C503.5. |
| **Monica Zazueta** | I'm a concerned mama to a seven-year-old boy and I'm currently pregnant. I'm a janitor. I'm an environmental activist. I'm involved with Sunrise Citizens Climate Lobby Alliance for community engagement, Beyond Fossil Fuels Task Force, Save Vancouver Trees, Washington Environmental Council, and I'm on the lobby team for Sierra club. Why am I involved with all these groups, because I'm scared, I'm terrified for our future, I'm terrified for our kiddos, I'm terrified for my baby. The science is clear, we should have been doing this a long time ago and we don't have time to wait anymore. I am requesting you all to use your power to do the right thing to stop fossil fuels, because the only pathway to net zero is to stop fossil fuels and approve the heat pump proposals. I will end by giving a documentary recommendation and its *Breaking Boundaries,* with Sir David Attenborough, on Netflix, it is about earth's tipping points. I just want to just make it clear that this is a scary future for us if we don't do this. |
| **Rich Voget** | I am a member of the Keystone Church Green Team. We're all familiar with the saying you can't see the forest through the trees, the trees are the details, while the forest is overall concept. Today, you're hearing plenty of details, both for and against banning fossil fuel and new commercial construction. I submit that the overall concept is that climate change can now be called a climate crisis that is gaining momentum and should the State Building Code Council be concerned about it. The 2018 report from the UN Intergovernmental Panel on Climate Change, said the planet will reach a critical crucial threshold as early as 2030 and to prevent that, emissions need to be decreased by 45% from 2010 levels |

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| | by 2030. Part of the lowering of emissions involves widespread changes in buildings. Since buildings comes under the jurisdiction of the State Building Code Council we're here today. It's easy to compartmentalize ones thinking and decide if something is inside the compartment and I don't have to deal with it. The gas industries thinking is to protect their bottom line, the damages, and expenses from climate change that their product enhances is no concern to them because currently they are not billed for the damage they create. I beg the State Building Code Council to not say that climate change is not in your compartment and so you cannot make decisions based on future climate warnings. You are tasked with protecting the safety and welfare of the public while they are in buildings. The safety and welfare or the public will not be protected if fossil fuels are allowed in new commercial construction. Also, it is contrary to the 2019 Washington Clean Energy Transformation Act which requires Washington utilities to entirely eliminate fossil fuels from electricity generation by 2045. How can using more gas, now, be part of plans to entirely eliminate gas by 2045. It's also a waste of personal money for those people who will later be forced to retrofit from gas to electricity well before their gas appliances have met their useful life span. That's a lot that comes into effect. Please be part of Governor Inslee's climate team and enact the proposals before you. |
| **Carolyn Logue** | I am here today on behalf of two of my clients, the Washington Air Conditioning Contractors and the Northwest Hearth Patio and BBQ Association. Respectfully asking you to reject the commercial energy code proposals 103, 136 and 179. We really believe that these will go too far and result in a de facto ban on natural gas appliances, at a time when we really can't afford to do that. We need to be looking at a new decision. We believe that for Washington Air Conditioning Contractors Association, while they do install the heat pumps, that sometimes that's not the most efficient means to provide heating and cooling options in a building and that there needs to be some level and ability to take a look at other options and make sure that those appliances are available, particularly right now and we don't into the foreseeable future, when we have lots of supply chain options. We also believe there needs to be this variety of clean burning fuel choices to not only achieve the carbon emissions goals, but to also ensure maximum energy efficiency at the building level, because we need to make sure we're not overloading the electrical system, as we make these changes. "Static making this part inaudible." The one thing that we found during this pandemic and other crisis is that we need people to have the ability to shelter in place. Often, those shelters are the commercial buildings and often people in multifamily units need to be able to stay at home as well. So, we need to figure out how to have those backup options, particularly for heating and cooking for those people that are in those types of buildings. The other problem we have is that, as we look at EPA non-attainment, we need to be able to make sure that there are clean burning options other than wood stoves for people to have when they're searching for those alternative options. We believe that if you move forward with these three proposals within the Commercial Code, that you will actually be possibly degrading the ability to have natural gas hookups in areas where you're building these new commercial buildings. Finally, we are very much |

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| | supportive of the move towards hydrogen, and they look at the renewables and looking at how we can make the appliances work with that. We're also very excited with what we're seeing in the state legislature right now in terms of really looking at how do we could we integrate this and really work in a transition into our existing grid and infrastructure, using natural gas. We don't want to get into a situation where we've eliminated the ability to have a natural gas infrastructure, we then develop these new technologies that can help take the load off of our electrical grid and provide heating and possibly fuel, that's not fossil based, right to the houses and right to the commercial buildings and then have to go out and retrofit. It is very expensive to retrofit and dig up sidewalks and open up building walls and do all that to do that kind of retrofit if we find that that is actually a better and more efficient and cost-effective way to heat and work with our houses and our buildings and commercial buildings. We urge you not to move those three proposals forward and look forward to working with you. |
| **Kelly Rankich - 21 Acres** | I'm the Facility Manager for 21 Acres, a high-performance building, located in Woodinville Washington. We achieve lead platinum certification in 2013. I'm here today to express my own, as well as 21 Acres, support for climate friendly, statewide building energy codes. I have a degree in Environmental Engineering, with an emphasis on Atmospheric Sciences and I've been really proud to live in Washington State, that's showing itself to be a leader in climate forward regulation with the passage of the Clean Buildings Act and the Climate Commitment Act. I want to encourage the SBCC to continue demonstrating this leadership. As a building operator of an existing building working for an organization that's focused on climate action, I became even more interested in our new construction commercial energy codes, with the projected increases to the number of new commercial buildings and considering the average lifetime of commercial buildings. With these projections in mind, and in order to meet our state's emission reduction goals, which will reduce our negative climate impacts. We need to ensure that we do not miss out on this opportunity to get more rigorous codes in place. 21 Acres was fortunate, we have a forward-thinking founder. Our building utilizes ground source heat pumps for both space and water heating. Our building envelope is highly insulated and there are numerous examples of efficient technologies incorporated into our original design. Even still, we're looking at ways to retrofit the building and it's certainly more of a challenge to retrofit them to use best practices from the start. For example, having the electrical outlets in the kitchen to allow an easier replacement of the natural gas kitchen equipment would make the conversion to electricity easier, less expensive, and certainly make my job easier. Energy efficient buildings lower energy costs, save money and are a lower cost option to reduce emissions from buildings. Yet, there are concerns about strains on the electrical grid, as we continue to electrify and reduce our dependence on natural gas. Efficiency is the best first step to help mitigate these concerns. In order to get to net zero buildings must first be built to be efficient. We, 21 Acres, ask that you please move forward with the full package of amendments to utilize the best building techniques and technologies including the heat pump |

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| | space heating and water heating amendments previous supported. As well as the amendment for increasing the additional energy efficiency credits and the amendment to require electrical outlets at the locations of gas appliances. |
| **Luke Howard - WA Dept of Commerce** | I'm with Washington State Department of Commerce. I'm a member of the Energy Code Technical Advisory Group representing State agencies. I am providing testimony and support of the package of proposals that have been reviewed by the Energy Code Technical Advisory Group, on behalf of the Department of Commerce State Energy Office. I've been involved with energy code development, technical assistance, and training for over a decade. The package of proposals put forward by the TAG reflect necessary changes for the 2021 Non-residential Energy Code to make forward progress in meeting the requirements of RCW 19.27A.160 and put the state on the path towards meeting our greenhouse submission limits. These proposals align with the recommendation of the State Energy Strategy for building sector published by the Department of Commerce in 2021, as required by law. I would like to express specific support for amendment 21-GP1-156, 2021 Non-residential Washington State Energy Code, which proposes an updated carbon emissions factor for electricity, as it applies to the building performance requirements. This proposal represents the necessary change that aligns or State Code, with the Clean Energy Transformation Act or CETA, 100% clean electricity standard enacted in 2019. The proposal simply aligns carbon emission factors in the code with current state law. This code proposal uses analysis from the national renewable energy lab and is in alignment with the California Energy Commission 2022 Energy Code update, by using long run marginal admission rate for electricity. The emission rate remains above zero despite the hundred percent clean energy requirement, due to the transition provisions of CETA and the effect of Washington's electricity consumption on emissions in other states. I urge the State Building Code Council to adopt this proposal in 2021 Nonresidential Washington State Energy Code. If the Council has any questions about this proposal, I invite you to follow up with either myself or Glenn Blackman, the manager of the Energy Office at the Department of Commerce. |
| **Bill Sampson** | I'm in Seattle and I volunteer with lots of different environmental organizations. I'm sure you've heard a lot of things, so I kind of want to say something a little bit different. I think a lot of people have mentioned, you know, the air quality and the smoke from the wildfires. But one thing I've been noticing the past five or six years, that's new, is it the air is bad not just when there's wildfires but also at other times to just from stagnant air and that never used to happen in the Seattle area. The cause is very clear, right, it's from fossil fuels and increasingly that's from gas, and it should really be called fracked gas, because most of the gas is fracked gas and this is not clean or safe. Electricity is a really great alternative, it's clean and safe, and you know reduces global warming. I'm in support, of you know, the heat pump proposals for commercial buildings. I know, at my home there's a heat pump it's different from you know the gas stoves, but I know I have one gas stove and one electric stove. The electric stove is easy to clean, it's cleaner and it works just as well. Whereas with the gas, I have like an indoor air |

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| | quality monitor and the air is really bad unless the exhaust fan is used but the exhaust fan isn't supposed to be used if there's no bad air quality. So, if there's bad air quality, a gas stove is really terrible for the indoor air quality. I think that's just the same story, in general, that the electricity is clean, and you know fossil fuels are not. Let's see what else, and the issue isn't really with the power being generated from electricity that there's plenty of power being generated. I saw the comedian, John Oliver, he had a segment about our grid and that a lot of the infrastructure is aging a lot with the transmission lines and the transfer stations and things like that, and so you know if that was improved, then we would really improve the reliability of the electricity and make that even you know better option. |
| **Geoff Glass – Providence** | I'm the Senior Energy and Sustainability Manager for Providence. I'm representing the position of Providence at this public hearing. Providence owns and/or operates 16 hospitals and over 140 other healthcare facilities, in Washington State alone, including the two largest hospitals, numerous clinics, and long-term care facilities. The World Health Organization named climate change as the top threat to human health in 2019. Environmental conditions represent a significant amount of sickness and disease in our state. Health and wellbeing depend on access to clean air and water, freedom from exposure to harmful chemicals, and a stable climate. Providence, we believe that health is a human right. We cannot be healthy people without a healthy environment which to live. We've experienced, firsthand, the negative health impacts of climate change in our state from wildfires to flooding to extreme heat events. Providence is dedicated to environmental stewardship as a part of our core value justice and, as such, we are committed to becoming carbon negative across our operations by 2030. This cabinet supports our vision of health for a better world. This code amendment, to decarbonize more buildings in Washington State, can help us achieve our goal of carbon negativity by 2030. We support these proposed amendments for the 2021 Washington State Energy Code, including the provisions recommended earlier by hospitals related to the unique exceptions needed for redundant emergency heating capability in critical facilities, as well as preferred code language options. |
| **Kevin Duell** | I'm with Northwest Natural and I'm a bit of a paradox. I'm a lifelong environmentalist. I was even trained by Al Gore and the climate reality project, so I believe in the climate narrative and the importance of decarbonization. Somebody asked, "why do I work for a fossil fuel company?", well, they are now, but they're working to not be one. I'm part of that transformation, not only the utility but the regionally energy grid. I'm a mechanical engineer, a big picture thinker, I like numbers and I like things that work. Let's talk about this Commercial Energy Code, which I was a TAG member on. Many folks have mentioned gas use within the home, today. This code will have no effect on that. But let's talk about some real numbers of emissions numbers, the latest data from the Washington Department of Commerce shows that the direct use of gas in commercial buildings is 3.3% of the State greenhouse gas emissions. 3.3%, when I say direct, I mean the gas used at the building. Many folks have used bigger numbers today but they're usually referring to all buildings, not what this code regulates or they're referring to the |

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| | total emissions of those buildings, so the electrical generation plus direct use of gas. Today, the majority of commercial emissions are from electrical generation. So, if you can eliminate gas in commercial buildings, today, that would be 3.3% but there's a large building stock, slow turn over, already mentioned, so the electrification measures in this code 103, 136 and 179 with reduction of less than 1% of direct emissions of gas, all else being equal, it's not much of an effect on direct admissions at least. But they will add cost more than indicated in their cost benefit analysis. In particular, measure 179 that will save no energy. But there's hope we have decarbonization legislation, the Clean Energy Transformation Act is already decarbonizing electrical generation. The Climate Commitment Act, which was enacted after this code was crafted, ensures the decarbonization of fossil fuels as well. We're talking here about regulated utilities, that abide by the law, so carbon will be reduced aggressively both for electric and gas. There's also hope in the NEEA Washington Code Roadmap Report that shows that gas technologies can achieve comparable savings to electric, includes gas heat pumps. But this code won't allow that, this code will bind buildings to a single energy source, reducing resilience. This will bind builders to constrained choices, inhibiting innovation, to curb carbon and cost. I ask, please don't tie the hands of builders and owners, and then bleed their wallets. Voting for this code with electrification measures, again less than 1% reduction from direct gas emissions commercial buildings, but it will make buildings more expensive, less resilient, and less innovative. |
| **Robin Briggs** | I'm here to speak in favor of the code changes to move away from fossil gas for space and water heating and buildings. I'm not a builder or an architect or any kind of expert. I'm just one of the millions of people who live in Washington in its buildings. After smoke event, two years ago, I got an air quality monitor. Last summer, when we had another smoke event, family was in the kitchen with the air filter we'd set up there. I turned on the air monitor and the air quality was okay then I started cooking dinner and found that the particulates jumped up when I turned the burner on. That was when I found out what we've been breathing for 20 years. I'm in favor of anything that gets us off gas. But in a larger way, I want to say that, like health, you don't realize when you have a good climate, you realize when it's not so good anymore, when you stop going outside in the summer because of the smoke from wildfires or when you start wondering where your food is going to be coming from because a lot of your food comes from California and it's 20 years into the worst drought in 1,200 years. Methane emissions from natural gas are a huge part of the problem and we know that we will eventually have to make this change. Please don't make our problem worse by keeping the gas flowing for a few more years and building more buildings that will need expensive clean retrofits later. The IPCC says that we need significant reductions in this decade, in order to prevent disasters, much worse than we've seen in the last few years. Our State's elected leaders decided that we should follow these recommendations and get off fossil fuels. Your job, as Commissioners, is to follow through, please approve the codes. |

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| **Steve Gelb** | I'm the Northwest Regional Director for the Emerald Cities Collaborative. For 10 years our mission has been to bring the benefits of the new clean energy economy to low-income communities and communities of color. To that end, we have worked with the affordable housing, multifamily communities on energy retrofits, renewable energy projects, and creating exemplary new affordable housing. Creating sustainable, efficient, and safe homes for low-income families has many benefits; improved health by reducing instances of respiratory diseases, better comfort that allows families and children to focus on school and each other rather than staying warm or cool and reduce energy burdens that free up money for food, health care, and savings. That is why we support the proposed package for proposals for the Energy Code before the Council. We would like to share the following, with respect to our low-income residents and affordable housing. Combustion of fossil fuels in buildings creates outdoor air pollution that is disproportionately concentrated in low income and communities of color, in part, due to the historical impacts of redlining. I work with our affordable housing buildings that are near freeways, airports, and industrial areas, where they are exposed to the pollutants from transportation and other buildings. Reducing the pollution in our new buildings is one step to improve the health and wellbeing of these low-income communities. I also work with our renew program which develops energy efficiency retrofits in existing affordable housing. Replacing fossil fuel gas systems with more efficient electric systems can be costly and challenging. That is why we owe it to our low-income communities to construct all electric buildings, now, so that we don't burden them with the outdated legacy fossil gas systems and stranded assets. The investment in the right systems, today, will protect our vulnerable communities from higher costs in the future. The code also considers affordable housing's unique needs and requirements, allowing less expensive electric resistance space heating to heat the smaller, more efficient units that are typical in our affordable housing projects. And finally, using highly efficient heat pumps with cooling capabilities will be essential to keep the elderly and other vulnerable low-income residents safe during increasingly extreme and deadly heat waves or wildfires. Low-income communities are the greatest risk of being left behind the in our new clean energy economy. That is why strong building codes, like the ones you're considering, are vital to an equitable future for all residents. |
| **James O'Neill** | I am with the Affordable Energy Coalition. I also would like to speak out on the equity and inequality of the natural gas ban on Seattle's low-income and BPoC communities. The AEC shares the environmental concerns of all those who has expressed those concerns here today. Seattle's got an ongoing affordability crisis. It's already the third least affordable city to live in, in America, and it's threatening our status as one of the most diverse cities in the nation. Research from the Oxford Economics Group, a leader in global economic forecasting, shows that the City's gas ban has a disproportionate and additional pressure put on the BPoC and low-income communities of Seattle, forcing many of those to live in older buildings or leave the city altogether. Only 29% of those who live in three story buildings, that are new buildings, are communities of color. Only 9% of people who live in these apartments are neither low- |

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| | income nor communities of color. Natural gas accounts for one third of Seattle's energy use and natural gas will increase energy costs, even more, which will force these communities to pay more money to cool and heat their homes. This cost increases being felt disproportionately already by the BPoC and low-income communities. Seattle's median household income is $102,000 but the BPoC median income is $48,800 and the Indigenous Native American communities $34,500, respectively. These communities are already stretched thin with rising transportation, childcare, food, and education costs. Washington's energy pandemic order preventing utility companies from shutting off water and electricity and natural gas services for their customers ended September 30, 2021. According to the state of Washington, nearly a half million citizens are already behind on their utility bills and are being encouraged to seek assistance from the Federal Low-Income Heat and Energy Assistance Program. Increasing energy costs by banning natural gas will place even more of these families at risk and put them behind. This isn't the first time the BPoC community has been squeezed out of their homes in the name of progress. The light rail project promised affordable transportation to those living in Seattle Rainer Valley. What happened to that community was property values went up, rents went up in those communities were forced out of the City all together. The ongoing depletion of this community also exacerbates the already existing shortage of Seattle's service-oriented workforce. More importantly, a city that has built a reputation of being diverse will no longer be able to be so. King county has seen a 50% increase in its black population since 2018, but Seattle has only seen a 2% increase in that same time, the lowest in decades. The ban on natural gas's energy option for new commercial and multifamily residences in Seattle may look like an easy decision on the surface, but the consequences of this action will have immediate and long-lasting negative effects on many of the City's already struggling BPoC and low-income communities. Going greener could produce a Seattle of less color, which goes against the Green New Deals pledge to support BPoC communities. The results of the Oxford Economics study confirmed this. With a racial equality toolkit, the city of Seattle promised that any new legislation that does not provide a direct benefit to communities of color will at least have no negative effect on those communities. Research clearly shows that the ban on natural gas and the increased cost of energy for those communities, has the opposite effect. |
| **Gary Heikkinen – NW Gas Association** | I'll be speaking in opposition to the emissions factor proposed in proposal 156. I've been a member of the Energy Code TAG since 2015 and energy codes have traditionally used either energy usage or energy cost as a metric for compliance. But in 2018, carbon emissions was introduced into the Washington State Energy Code as a compliance metric in certain sections of the code. An emissions factor of .7 pounds per kilowatt hour was chosen that fact, there, was not really based on any real technical analysis and it's more of a compromise between two extremes, really not the way you want to create code. The current proposed factor of .4 pounds per kilowatt hour came from an analysis done by NRAL and these comments are not meant to criticize either and NRAL or the model they used to predict what the future emissions factor |

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| | might be. However, with all models, no matter how good, the results are dependent entirely on assumptions may going into the model. So, there are several issues, the NRAL model does not adequately assess some of these electrification proposals. It uses a 10% load growth which will be much higher than that if these electrification proposals are adopted. Again, admissions models are necessarily simplifications of reality, and the results are highly dependent on modeling assumptions and obvious by the results from the NRAL study that showed range from 0.2 pounds per kilowatt hour to 1.71 pounds per kilowatt hour, depending upon the assumptions in the model. We want to compare that to what the actual marginal emissions are today in the Northwest power pool of 1.66 pounds per the 2020 data. So why does this matter, a .44 emissions factor is highly speculative and much lower than current reality. As I stated, the Northwest power pool marginal emissions have been one and a half pounds and it had been stable for over a decade and .44 factor assumes the very best outcomes for clean power. I might say that using emissions rather than energy use is a critical driver for energy codes and this cannot be overstated. Using the wrong emissions factor will drive builders to make wrong choices and away from cost effective efficiency measures. So, our recommendation is to restore energy consumption as a compliance metrics and avoid the speculative future emissions factors or revert back to a factor of .8 pounds per kilowatt hour, as originally proposed back in 2018. |
| **Joëlle Robinson** | I am calling in from Bellingham. Many others have spoken to the heat pump proposals as a strong solution to addressing the climate crisis. I would add my voice to urging you to do this, as well, with a personal story. I woke up at 3am on November 15. I didn't realize that my parents, who were 20 miles away, also were awake because the big Whatcom flood was at their doorstep. It had rained a month's worth of rain in two days. I can only imagine the terror they were feeling watching the floodwaters rise. By 8am they had five inches inside. My sisters and I convened on the phone and called them saying either you're calling 911 or we are and that's because they had texted saying they were going to ride it out, despite no power, no phone service, and no spare cell phone battery. I call 911 for the first time around 830. I explained that my parents are elders at 85 and 80 and that my mom had recently had hip surgery and was unsteady. My dad did not know how to swim and that they did not have an upstairs. They could not guarantee a rescue anytime soon as they were inundated. My sisters and I started turning over every stone we could to try and find someone with a boat to get them, calling and texting near and distant cousins and childhood friends. We grew up in that home, my father built it 51 years ago. We kept calling and texting. I proceeded to call 911 two additional times, each time breaking into tears as I thought about how cold and scared my parents must be. As the day wore on, we were increasingly worried that our sleep deprived parents might slip and fall with no paramedics able to reach them, I worried about hypothermia. Each time we got an update from my mom the water was higher. We were worried that if they didn't get them out of there soon, a rescue in the dark was extremely dangerous. Finally, we had two leads, a fishing boat and a tractor that could conceivably put them in the front loader. Both were deployed and |

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| | we waited to see if the boat or tractor could actually get there and missed updates, we were getting for neighbors about it being a very dangerous current. Finally, around three o'clock our parents' neighbors sent a video of them in a boat making its way over the water through the fields to dry land. The rest of the story is a long slog of clean up that started when the water receded enough to get into the house and assess the damage. It's really a terrible clarion call connecting the dots on extreme weather from climate disruption, causing physical, emotional, and economic suffering to families and communities. I hope you will enact these codes to help reduce more of these events in the future. |
| **Nicolas Garcia - WPUDA Policy Director** | On behalf of the Washington Public Utility District Association. For perspective, PUDs in this state deliver nearly 40% of the electricity for retail customers. I want to begin by noting that WPUDA takes no position on the merits of the commercial building, solar mandate proposed in C411. However, the associated financial analysis is deeply flawed. It substantially overstates the benefits likely to flow to retail customers and, quite frankly, is dismissive of State statute. Generally, governing boards have a wide latitude for how their utilities charge customers for electricity. One exception is found in Chapter 80.60 RCW, with certain exceptions this statute requires utilities to meter electricity produced by a customer solar array, in other words, utilities pay for electricity from a customer solar generating system at that utilities electric rate. However, this requirement also has limits, the statute is explicit that net meter is not required for solar systems larger than 99 kilowatts or after utilities reach a cumulative amount of installed solar generation in their service area. During the development phase of these codes, WPUDA informed the Commercial Code Technical Advisory Committee that two of the nine prototype buildings included in the financial analysis exceeded the overall net metering size threshold, that several utilities were near the cumulative threshold and that outside of net metering utility governing boards were free to treat electricity used by distributed solar in any way they see fit. None of this information was incorporated into the financial analysis. Beyond the issue of ignoring state statute, the financial analysis assumes that utilities will net meter solar generation at a rate of 9.2 cents per kilowatt hour. We provided the TAG with a list of actual commercial retail rates for 49 Washington utilities, about 80% have rates below nine cents a kilowatt hour suggesting that most commercial buildings would see a lower benefit than asserted in the financial analysis. WPUDA described these and other concerns in a letter to the Building Code Council sent on September 13 of last year. We have since discovered an additional concern, contracts under which public utilities purchased electricity from the Bonneville Power Administration specify that new generation projects larger than 200 kilowatts have contractual consequences that increase utility costs. Costs that are likely to be passed on to solar system owner, through their inner connection fees, and one of the buildings that were prototyped in the financial analysis had a solar rate of above 200 kilowatts. WPUDA contends, some of the financial analysis associated with C411 is so fundamentally flawed that the Council cannot reasonably judge whether the proposal is in the public interest. |

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| | Therefore, we ask the Council to suspend further action on it until the financial analysis is revised to accurately reflect the likely consequences to owners of commercial buildings, to utilities, and to social and environmental values. |
| **Patience Malaba – HDC of Seattle-King County** | I am here testifying in strong support of adopting a Commercial Energy Code that aligns with climate and sustainability goals that we've established here the local level but also at the state level. Just for some context on who the Housing Development Consortium is, we are a membership association of more than 200 members who work across the King County region to ensure that low-income households have access to safe, healthy, and affordable homes. The work of our association and membership is squarely in the nexus of the intersecting crises of affordable housing, racial equity, and climate change. As such, we don't believe that our climate goals conflict with our housing goals. We support a Commercial Code that helps build affordable housing for a resilient and sustainable future. As you well know, in the State, as of 2020, we are facing a quarter of a billion homes shortfall for people earning less than half of the area median income. That number continues to grow as the housing market sedges in different parts of the state, causing rental prices to go up, home prices to also go up exponentially and exasperating our state's homelessness crisis. While this increase in demand for housing can be a justifiable reason not to alter the energy code, we argue that it is precisely because of the increase, the need for new affordable multifamily housing that we must build resilient homes for a sustainable future. We should use emission free technologies to reduce pollution, reduce ongoing energy costs, and mitigate the near- and long-term effects of climate change. So, as Washington State transitions to a clean energy economy, we must also maintain at the center as a parody in all our policies, equity, especially in housing. Our state energy strategy has placed to address historical inequities of frontline communities by ensuring that equitable distribution of clean energy benefits and reduction of burdens to communities that are highly impacted by climate change and by ensuring that we include affordable housing here, we are really making sure that we're not locking low-income people in long term detrimental impacts of the climate crisis. By building affordable housing projects that are clean and resilient from the outset, we will be prioritizing the frontline communities that currently do bare a disproportionate burden of the harm that is caused by pollution and climate change and in doing so, we will create a state in which clean and resilient housing is accessible and available to those who are most in need. In Washington, our HDC members are leading the charge in building sustainability, and we ask you to advance forward an energy code that really reduces indoor and outdoor air pollution. |
| **Bill Will - WA Solar Energy Industry Association** | We're in full support of the complete package of Commercial Energy Code amendments that has been brought through the TAG process. Know, that for the first time during this process, the solar energy industry was represented, we had membership on the Energy Code TAG, help craft some of these amendments. It's clear that it's going to take a lot of intertwined strategies to meet the clean energy goals that the State has established. This package of code amendments is one of them. Historically, one of the biggest drivers in the energy code has been |

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| | efficiency that practice continues, because frankly the cleanest energy is the energy that's not needed because of buildings that are built tighter and more efficiently. And that trends got to accelerate as well. The second-best source of clean electricity is onsite renewables and for the first time this package of amendments will mandate that the use of solar energy and commercial buildings. To counteract a comment that was made earlier in the session, it's anticipated that virtually all of the energy that's generated on site in buildings that select to use as a rooftop solar as a compliance measure, that's going to be used on site it's going to offset usage from the grid and there'll be very, very few scenarios where any of that energy would be fed back to the grid for net metering or any other concerns would emerge. I'd like to echo one other point that was brought up, the Energy Code TAG went through a month-long process to look at all the amendments that were proposed, they vetted them, they considered them, and they passed on the best of the bunch and that's what you're looking at today. We're fully in support of all these amendments and ask that the Council proceed. |
| **Senator Mona Das – 47th District** | As you know, I have been honored to help lead the work to protect and sustain our environment for generations to come. I know that young people like my nephews are counting on our generation to make the decisions and consider their future. So, today I ask you to adopt this suite of commercial code updates. In the past year alone, as we all know, we have suffered unprecedented floods, wildfires, droughts, heat waves, bomb cyclones, you name it, and those have impacted hundreds of lives and cause significant economic damage and woes across our state. In order to prevent these climate funded disasters from getting worse, we must use every tool available to us to reduce greenhouse gas emissions and protect our communities from harm, especially as we've learned through this pandemic, the frontline communities that are most impacted by climate change. We know that communities are suffering worse from pollution, often low-income communities, communities of color, communities who are linguistically isolated or challenged. We have high risk of death in particle pollution, in part, due to our historical impacts of redlining that have led communities of color to be pushed to live in places with greater pollution, air pollution exposure. Our state energy strategy has pledged to address these disparities, while also ensuring the equitable distribution of clean energy benefits and the reduction of burdens to our communities highly impacted by climate change. The SBCC adoption of energy codes that reduces our indoor and outdoor air pollution, will, I believe, create a tangible pathway towards achieving these promises, while repairing historical inequities that are further aggregated by climate change. We have done a lot in the legislature and I'm asking you to, I urge you to adopt these changes as well. |
| **Heidi Culbertson** | I have been a resident of Camas, Washington for 25 years. I appreciate the opportunity to add my voice to the mix, recognizing that not everyone in the world lives in a democracy and has an opportunity to testify, in this way, and others perhaps don't recognize the need to do so. People today are busy they work, they grocery shop, they do their laundry, make meals, clean up, and maybe they're driving kids to sports activities. For the most part, they're focused on the day-to-day routine of |

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| | their lives. And if they are thinking, the way I used to think, they don't get too worried when they occasionally hear those stories on the news of global warming woes and the existential threat to the world's ecosystems and indeed, the world's animal populations, which of course includes humans. Why do they not worry, perhaps they feel that threat has no effect on their day to day lives, maybe they're the ones that will think about that tomorrow or next month, next year or maybe in the next decade. The ocean looks the same at the surface so unless they're really paying attention, they don't know that we've already lost 50% of the world's coral reefs. Other people don't worry because they assume that the experts are dealing with that issue, that the people in the know will make the right decisions when that vaguely defined time comes. Unfortunately, because people have said this, for decades, the time has come, now. Study after study after study, thousands of them, scientific and peer reviewed, say that this isn't tomorrow's problem anymore. If we make the hard decisions starting today, we can avoid the worst of the catastrophic consequences heading our way. We have the opportunity here in Washington State to do the right thing, right now. As a state, let's continue to be a leader in how to address this truly existential global warming threat to our world. Let's do our part to decrease the demand for natural gas, you are the decision makers, I spoke of earlier, that people are counting on to make the right decisions now. Please take the step to electrify new commercial construction as much as possible, by requiring clean, efficient nonfuel fossil fuel water and space heating equipment. |
| **Melinda Hughes** | I live in work in Olympia. I want to thank you for this opportunity to share my thoughts on the code updates and more specifically, look at them under climate and equity lens. In addition to being a concerned citizen, I hold a Master's in Environmental Law and Policy from the Vermont Law School, with focuses on Energy Law and Climate Change Law. I've worked in the environmental field now for about 30 years. On our climate change issue since 2005, with an extensive background and natural resource extraction, as well as pipeline safety. I'm also the Executive Director of the Thurston Climate Action Team but are known as TCAT. At TCAT, our work focuses on reducing greenhouse gases and climate justice. We work with the principal jurisdictions, urging them to make the best decisions for climate change and equity in mind. We urge the Council to do the same, by helping to electrify buildings by adopting the proposed changes. The worsening climate crisis obliges us to think carefully about our energy choices now. We often hear of natural gas promoted as an environmentally friendly alternative. But we know that this is just a promotion, as studies have over and over proven this to be wrong, especially in looking at the natural gas production and delivery. At TCAT, we encourage homeowners to consider heat pumps as a climate friendly alternative and the benefits of heat pumps go beyond just the voting aspect, to the production and distribution. One gas that has to be under a microscope is methane, a potent greenhouse gas with about 84 times the warming effect of carbon dioxide over 20-year period. The concentration of methane in the atmosphere is rising by over .5% per year and currently causes at least 25% of atmospheric warming. In the US alone, the larger fraction is from leakage, production, and |

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| | distribution of natural gas where 2.3% of the methane leaks directly into the atmosphere, making natural gas dirtier than fuel oil or even coal. So, looking through an equity lens, climate change targets the most vulnerable populations in Washington State, communities of low-income, black, indigenous, people of color and looking at how what we do affects elsewhere, being on the west coast, we must take note that most fossil fuel extraction takes place in BPoC communities. Often in valleys, where the majority of methane becomes trapped, creating an exasperating health issue and especially for those with respiratory conditions. The methane that escapes, travels far, and contributes to air pollution downwind or as it travels across the country. Also, in fossil fuel situations, too often, is the prophet privatized while the effects of cleanup costs are socialized. Methane is also a major risk due to combustibility potential. In closing, required heat pumps is the least we can do when it comes to tackling climate change and justice. Continuing to allow greenhouse gases continue, with the industry going about business as usual only worsens the problem. Switching to heat pumps will not only help with a methane, but also helps to curb other hazardous air pollution, such as volatile, organic compounds known as the OCs, which are released alongside the methane. But from a moral standpoint, looking to the stability of our environment for our future citizens it's definitely our duty to combat climate change now. So, electrification and heat pumps are step in doing so. |
| **John Rothlin – Avista** | Avista is an electric and natural gas utility. We're based in Spokane. We provide energy to about 400,000 electric customers and 365,000 natural gas customers. We're urging the Council to reject amendment 103 and 136 related to space and water heating, amendment 179 requiring electrical receptacles at gas appliances and amendment 78 require an onsite renewable generation. Let me begin by saying Avista supports thoughtful decarbonization pathways that safeguard energy reliability, preserve jobs, and ensure energy affordability to the greatest extent possible. We have a corporate goal of reducing emissions from our natural gas system by 30% by 2030 and achieving carbon neutrality by 2045. We don't need to eliminate energy choice to get there, we will do it by leveraging the innovation and expertise of the people who build and maintain our energy system. With respect to the measures that prohibit the use of natural gas for space and water heating, they do not comport with the statutory requirement to provide flexibility in heating equipment efficiency or the requirement to yield the lowest overall cost to the building owner or occupant. Those are directives from the Building Code under RCW Chapter 19-27A. The proposed changes also fail to recognize the statutory requirement to account for regional climate conditions. Avista is a dual fuel utility that serves IECC climate zones, five and six in eastern Washington, which has conditions that are much colder than marine climate zone along the I-5 corridor. The efficiency of electric heat pumps is significantly diminished in the regions where our customers live and work. Our annual heating degree days or 40% higher than western Washington. Electric heat pumps have to be oversized to account for frequent defrost cycling and the use of auxiliary heat when temperatures are below freezing. Finally, I want to speak to proposed amendment 78 which requires renewable generation systems to be |

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| | installed on buildings 10,000 square feet and larger. The economic impact data sheet that accompanies this proposed amendment assumes a payback on distributed generation that is inaccurate and would, in many cases, be in violation of State and Federal law. We encourage you to read the explanation submitted by the Washington PUD Association in September. State law places limits on net metering, the law would not permit the compensation assumed in the economic analysis. Some commercial systems are subject to Terre regulated under federal law. We pay for energy generated at the utilities, avoiding costs, which is less than half of what assume that the data sheet, so the payback on these systems will be well beyond the life expectancy of the system. |
| **Rachel Wood – Washington Physicians for Social Responsibility** | I am trained as a family physician, most recently retired from being the Public Health Officer of both Lewis and Thurston counties. As a public health officer, part of my job in protecting the public's health was to work with populations who are vulnerable to extreme heat measures or to the increased particulate matter that has been affecting our breathing for the last several summers with wildfire smoke. I wanted to comment, a little bit, on the heat dome that happened in Washington and the northwest area of the United States, last June, and thank my colleagues at the State Department of Health, who have been analyzing reports on hospitalizations and deaths related to the 2021 June heat wave. I will say that for schools, fortunately, they were not in session in late June, but verbally reported to me, from colleagues, is that likely some schools would have had to close, as they do not have great cooling available to them. The extreme heat wave event resulted in high risk of heat related impacts for much of our population, especially for those who are heat sensitive and who don't have good access to effective cooling, such as those of our population who live in multifamily buildings. Unfortunately, these events are likely to increase in frequency and to have longer duration. So far, the information that has come to the State of Washington, there were 100 excess deaths related to that heat dome in one week period, in late June. From the Centers for Disease Control, in the morbidity and mortality weekly report that came out on July 16, they looked at the whole region 10 which includes Alaska, Idaho, Oregon, and Washington and were looking at heat related illness from Emergency Department visits and compared it with 2019. I will not talk about all the ways they tried to make this a fair comparison, but there were 1038 heat related illness, Emergency Department visits in region 10 in June of 2021, compared with nine in the same time period in 2019. We, in Washington, can develop and implement heat response plans, identify at risk neighborhoods and populations, open cooling centers, use data to guide policy and action and protect communities, especially our most vulnerable and disproportionately affected populations. We need to work on this together. I have looked into heat pumps and I'm still educating myself about that. |
| **Jeni Woock - Gig Harbor City Council** | I'm testifying in support of Commercial Building Codes update. Like many cities on the Puget Sound, Gig Harbor is very familiar with the effects of climate change, we are beginning to see flooding in our waterside parks and net sheds. While we are doing much to protect our historic community, Gig Harbor needs to be able to use all the tools in our toolbox to help. While Gig Harbor could revise our commercial |

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| | building code like Seattle, Shoreline, and Bellingham have now done, we are a small city with 100 employees, limited staff, resources, and expertise. It would be financially and time wise very burdensome to implement this change on our own in this small town. It is wasteful and onerous for every individual jurisdiction to have to duplicate this work. It needs to be done once, in a uniform way for the entire State. Every city needs to work together, so the State can reach its emission reduction target. Should cities do some changes, it is healthier for citizens and city environments and building owners can even save money on reducing energy costs and avoiding costly retrofits later. I'm asking you to support these commercial building energy codes updates and give cities the tools to make good decisions that fit their individual needs. |
| **Skander Spies** | I'm a licensed professional engineer with 15 years of experience in the HVAC design industry and I'm currently a Senior Mechanical Engineer at McKinstry. Our firm is a diversified buildings systems contractor with a specialty in delivering low energy buildings across the Pacific Northwest, in the interim. I'm here to express my strong support for the heat pump space heating, heat pump domestic water heating code provisions. We know that climate change is a real and pressing threat to our quality of life and the safety of our communities and that electrifying buildings is a ready strategy to combat those effects. Natural gas will remain a critical energy resource and has its place in industrial and transportation uses. That said, my experience, as a design engineer, is that these natural gas buildings, even in cold climates, is quickly becoming unnecessary. And this new code language reflects that reality. The voters of Washington State have indicated they want the State to build a sustainable energy neutral building. Over the course of my career, no accreditation or incentive has driven down building energy use, as much as thoughtful and responsive codes have. The proposed language is the next logical step in giving Washington voters the climate response they demanded. In practice, all electric buildings are more energy efficient, safer, and just as reliable, if not more so than buildings gas heating systems. With small departures from traditional strategies, all electric buildings are easier to design and more cost effective to build. Their demand response is easier to meter and optimize allowing for the cost-effective integration of energy storage and district energy systems. I regularly work on projects and climate zones five and six and have been pleased at the wide array of heat pumps now available, that perform well and cold temperatures. We've already seen meter data from installed heat pumps systems in eastern Washington form with good efficiency, despite the cold weather. Our vendor partners continue to bring better performance equipment to the market and codification will only accelerate this development. Similarly, as climate change drives summer temperatures, in the same regions, higher, heat pumps only make even more sense as a single system can provide both heating and increasingly necessarily cooling. Making every new building all records a critical step to prepare for both the new energy economy and the less accommodating climate. The time is now, and codification is the best way to get it done. I urge you to adopt this code. |
| **Maria Batayola** | I serve as Beacon Hill Council neighborhood in Seattle. I just want to tell you how this would impact us. We know that major and growing |

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| | greenhouse gas contributors are buildings. We need a systematic way, in the State, to actually say these are the standards. It takes so much energy to lift this issue to different jurisdictions. For us, what it means, is that our community is bounded by greenhouse gas emitting airplanes I-5, I-90, Rainier, MLK and a majority of the oil heated homes is in our community. I know our folks would need assistance to make it happen. But, to have a general rule that once and for all in the State of Washington buildings will be electrified is important so that what we're doing to reduce greenhouse gases and make communities resilient is not being countered by initiatives that are not in line. I strongly recommend a group pass on this legislation. |
| **Brad Liljequist** | I'm Director for Zero Carbon Solutions for McKinstry and me an MEP contractor, in Seattle. My colleague, Skander, just spoke. We have about 2000 employees, nearly a billion dollars in annual revenue, and 25 offices, nationally. My role at McKinstry is to accelerate the carbonization broadly. Heat pumps are really the number one strategy in doing that because of their incredible efficiency. I'd like to state my unequivocal support for the heat pump proposals in the code and I have four items I'd like to highlight. The first of which, is that heat pumps are ready for prime time. McKinstry installs hundreds of heat pumps each year, primarily because they were effectively required by code in the City of Seattle, they work, they are a well-known, vetted technology and we're very lucky to have this awesome climate solution. Second, heat pumps need a push to become normative. That is going to bring costs down. Rights law states that by doubling production, not volume, that results in a 15% decrease in cost and that's been proven, time and again, over the last 90 years since rights law was written. I'd like to emphasize that the City of Seattle requirements that push heat pumps resulted in a rapid scaling of heat pump delivery in the market, which increased installed unit volume from dozens to hundreds and substantially reduced delivered heat pump costs. One golden rule of capitalism is that competition of the mass market drives knows how and competitive pricing, but another golden rule of capitalism is that entrenched technological incumbency often requires a hefty, concerted push to see market acceleration. The best does not always win, especially in the short run. We need codification to accelerate heat pumps from being custom and for the wealthy only, to mainstream and for everyone. Third, this proposal supports Washington State's clean tech leadership. This week, at McKinstry, I've been engaged in electrification projects in Oregon, Utah, Arizona, Wisconsin, Florida, Illinois, and Colorado and that really was my week. Our climate leadership is also a highly favorable Washington State economic export. Finally, adoption of heat pumps is inevitable, due to their awesome efficiency and the client urgency, those two things coming together. Starting the transition now, rather than waiting, is going to reduce it to a much lower net cost. The marginal cost of retrofitting a building to a heat pump is far more than doing it from the start. Retrofitting is just really challenging. The delivery design temperatures of a boiler-based system are much higher than the delivery temps for a heat pump and retrofitting that delivery system within a building is super challenging and super expensive. So, we are setting ourselves up for serious implementation |

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| | crisis, in the future, if we have to heat pumpify everything in a short period of time. And given what's going on with the tundra and everything else, that's the track we're headed on, unless we adopt these amendments. |
| **Ty Stober** | I am Mayor Pro Tem, City of Vancouver, and former manager of the Northwest Ductless Heat Pump Project at the Northwest's Energy Efficiency Alliance. Yesterday I had the opportunity to tour one of Vancouver public school's new, state of the art elementary buildings, a place for the children who will one day lead and yet I learned it uses gas for its HVAC system, so it settles those same young ones with a carbon intensive future. Vancouver is currently building its climate action plan with the intention of adoption in June. It's likely we will follow that by putting in place in building energy code which will likely restrict the use of gas in our commercial buildings. We would become the sixth community to do so. So, the main message is, it is better for the State to adopt it than to have one by one, piecemeal adoption in jurisdictions, throughout the State. |
| **Jeff Yirak** | I'm a Specifying Mechanical Engineer living and working in Spokane Washington. I've submitted written testimony in support of the heat pumps space and heat pump domestic water heating code revisions, and I wanted to reiterate, today, that heat pumps are an appropriate solution in climate zone 5. In my written testimony, I provided several examples of successful heat pump installations in and around Spokane. Those examples highlighted the applications have been both packaged units with electric auxiliary heat as well as cassette-style and ducted VRF systems. They're great for both new high efficiency construction, as well as retrofits to add cooling to a building or get a customer off a fuel oil boiler, which happens a lot out here. Heat pumps also work great and centralized system applications for an air to water heat pump can produce heating and chilled water, which requires hydroponic piping showing you don't lose pipe fitter jobs with the heat pump. This is a technology that works, and I urge the Council to adopt the proposed amendments. The electrification of our future will take many forms. |
| **Bryan Ahee – Bradford White Corporation** | Bradford White Corporation is an American owned, full line manufacturer of residential, commercial, and industrial products for water heating, space heating, combination heating, and water storage. As a manufacturer of water and space heating products, we've made substantial investments in products that provide significant energy efficiency and environmental benefits, such as heat pump water heater technology and ultra-low NOx gas water heaters. As a testament to these efforts, our company has been recognized as an Energy Star partner of the year, in both 2020 and 2021. We make the following recommendations and comments. We caution the Council, do not adopt Table C403.3.26, minimum efficiency requirements for gas fired in oil fire boilers. As the US Court of Appeals remanded the Department of Energy's commercial package boiler final rule. Recommend that updates to the boilers are not approved until the commercial package boiler final rule is completed. We caution the Council to not adopt amendment 206, efficiency and load management measures. We ask the proponent to make necessary revisions too many gaps regarding energy credit values |

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| | and prepare an updated analysis, for review, prior to the amendment's adoption. Our complete remarks will be available in written comments. We caution, the Council do not adopt amendment 99, the proposed amendment duplicates existing regulations put in place by the Washington Department of Commerce and may cause confusion as to requirements, inspection, and enforcement. We also oppose amendments 103, space heating and 136, water heating. We feel the proposals were rushed, industry stakeholders were not properly engaged in the process, and those proposals incorporate technical errors, as a result. In their current forms, we cannot support those amendments. Complete remarks are available for review in our written comments. Please know many other proposed amendments are intertwined with additional proposed amendments. The administration for the Building Code Council notes, there are instances where two or more submitted proposals that were approved, conflict and options are provided. This speaks volumes to the complexity of the Washington State Energy Code and to our concerns that the language was rushed and includes technical errors. |
| **Adam Hutchinson – Eastern WA Masonry Producers Association** | We are concrete product manufacturers, small businesses working with mason contractors and union laborers. Together we construct concrete masonry block wall systems for the exterior walls of commercial buildings. We oppose the code changes proposed by 207 and 208, as they would be harmful for our industry and would not accomplish their intended goals. The current Washington State Energy Code permits concrete masonry walls within internal cell-installation to comply with the code for specific building types, such as retail warehouses, gymnasiums, water treatment facilities, and motor vehicle facilities such as Les Schwab. These are building types where the owner desires the durability, low maintenance, and the fire resistance provided by concrete masonry. There are also building types where it is not cost effective, in our climate, to add extra layers of wall installation as would be required by the proposed code changes. Proposal 207 would further restrict the current code provision and proposal 208 would eliminate it fully. There has not been sufficient information provided by the proponent to justify such code changes and is why we ask that they be disapproved. |
| **Lowell Glodowski – Bricklayers and Allied Craftsmen** | I'm a business representative for the Bricklayers and Allied Craftworkers Local 1 Washington and Alaska. On behalf of the 1,400 BAC members and the families in the Puget Sound, I'm asking you to maintain the current mass wall requirements in the building code, as they have been maintained and discussed since the 2012 code cycle and not accept the two code change proposals, 207 and 208, which attempts to remove the integral insulated CMU exception for certain building types. Our reality is, COVID has negatively impacted our industry and, as we bounced back from it, we're looking at inflation and a possible recession in our immediate future. Our concrete units, which are manufactured locally, in Washington State have also had price increases similar to the construction product due to availability of the workforce market. These code changes do not move the needle to meet the governor's energy codes but will have detrimental impact to a group of workers that are loyal to the State. Many of our workers don't have the option to join another trade, at this point in their career. These code changes will |

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| | drastically increase the cost of this wall system and price the system out of the construction market. This system is utilized at very specific times, meeting very specific construction market needs. If, by your actions, CMU mass walls are substituted with other products, due to the possible increase that will be required, you will have a situation where the maintenance costs are increased and the building longevity that's compromised. My block layers have a reputation for providing a quality product installation that can withstand the durability challenges of the building code types that have been, with intention, made an exception, such as school gymnasiums or Costco. To replace this system is not logical for neither dollar and cents perspective, nor building use perspective. It will directly impact the jobs that my members depend on. In 2012, we supported the option two approach to changing the energy code regarding mass walls. We understand the governor's goals, we have done our part with moving the needle for the State, we also assume the governor will not be okay with eliminating significant jobs in a segment of a construction industry, where there are no other options to meet this goal. Approximately 40% of the buildings we build and install meet these expectations. That is not 40% of all buildings built that numbers more setting like 7% but 40% of part of our market. No other industry is being asked to sacrifice livelihood-based jobs, once again. On behalf of the membership, please consider the economic impacts to my bricklayers and reject the proposal and maintain the current code with regards to mass walls as is. |
| **Bruce Corigliano – White Block Company** | I am co-owner of White Block Company in Spokane, Washington, and Chairman of the Northwest Concrete Masonry Association. White Block is a third-generation, small family business started back in 1947 by my grandfather and his twin brother. We are located in Spokane; we employ about 21 people. The current mass wall energy code provisions are important to our company and the building owners in the state, and we really want them to be preserved. The proposed changes 207 and 208 are too restrictive and will not produce the cost-effective designs for commercial building owners in Washington State. The current mass wall code exemption only applies to specific commercial building types, using one concrete masonry wall system, it is not a wide-open code provision. Furthermore, designers and building owners are not prohibited from adding extra envelope insulation or improving HVAC efficiency or lighting, if desired for these building types. If you were to look at the real world, energy usage of many northwest building types, you're likely to find that the exterior wall material does not have a significant impact on the total building energy use. This is true of the building types permitted under the current mass wall exemptions, such as the box retail, gymnasiums, and the auto service facilities. Requiring significant increases in the cost of mass wall insulation is simply not justified. This conclusion is reached without even considering the extra energy required to produce, ship, install, and maintain the additional construction materials necessary to comply with the overly restrictive code provisions. Commercial building types using masonry, you know mass wall assemblies are unique; the durability, fire resistance, low maintenance provided by these concrete masonry units desired by many building owners. They know that concrete masonry is well suited for their |

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| | purpose and has externally performed well in service. I strongly believe that the common use of integral insulated concrete masonry blocks and not be prohibited. This is the one the most sustainable constructed methods available, using a minimal amount of construction materials, while serving multiple functions as a building structural support, while finish and building enclosures. Buildings constructed with these walls have an extremely long life and are very high resilient to exploit exposed to more frequently occurring national disasters. The proposed changes to the masonry wall requirements would have a detrimental impact upon our industry without proper justification and should be disapproved. The masonry industry consists of many small businesses operating in Washington State. The small business economic impact of these proposed Commercial Code changes must be fully and accurately considered to develop the correct code provision for these building types and our Northwest climate. |
| **Jed Olafson – Johnston Construction Company** | I'm one of the owners of Johnston Construction Company in Tacoma. I'm also on the board of members of the Masonry Institute of Washington, the Washington State Conference Amazing Contractors. If approved, proposal 207 and 208 would be detrimental to our business. The point made by others, that the proposed mass wall requirements are not cost effective for building owners, should be given strong consideration. With efforts, by some, to continually make the energy code more stringent, there comes a point when you no longer have a reasonable payback period to offset the increased construction cost. Cost effectiveness is gone, and the economy is negatively impacted. We are at the point, now, with masonry walls in many types of commercial buildings in the northwest climate. It is important to note that the proposed mass wall changes would further restrict or fully prohibit the common use of integral insulated single life concrete masonry block walls, for all nonresidential building types. These walls are built with insulation being placed in all the unreinforced cells that are not grouted, most likely, metal stud wall framing, insulation, chipboard, and paint would be added to the wall's interior for compliance. This eliminates many of the sustainable and resilient properties of the block wall, including durability, fire safety, VOC reduction and mold mildew resistance. If a frame wall assembly must be constructed behind a structural block wall, it is inefficient use of the building materials and greatly increases construction costs without comparable energy savings. This places a misappropriate impact on small businesses in our industry. The masonry industry, in Washington State, provides many residents with good paying, quality jobs. Our industry should not be harmed for very minimal, if any, energy savings in typical mass wall commercial buildings. Please disapprove these mass wall code changes. |
| **Blair Harter – Basalite Concrete Products** | I am the northwest general manager of Basalite Concrete Products, located in Dupont, Washington. We manufacture concrete masonry units and bag concrete products. We offer a complete line of structural block in a variety of sizes, shapes, colors, and textures for the commercial building market. One of our production facilities is located here in Dupont, Washington in Pierce County. We directly employ just over 50 people and serve well over 400 commercial customers, with numerous employees. Changing the current mass wall energy code provisions |

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| | would have a detrimental impact upon our business, without proper justification, post code change proposal 207 and 208. The current mass wall provision, in the state energy code, include a restrictive compliance option for integral insulated block walls, for certain building types, and wall grouting percentages. This provision is important to the mainstream industry and to building owners, seeking to utilize them any inherent benefits of concrete masonry walls exposed on the building interior. Through past energy modeling of a retail warehouse and high school gymnasium, in our climate, it was demonstrated that it has no cost effective, it's not cost effective to require additional installation the outside service of these concrete blocks. Changing the code would be harmful to the masonry industry in Washington State, locally produced masonry materials will be replaced with less durable construction materials, mostly coming from outside the state. Concrete masonry walls are multifunctional, allowing less construction materials to be used. Block walls conserve a structural support, building enclosure, interior exterior finishes, and fire rated assemblies. They're extremely durable and long lasting, which are key components of good sustainable resilient design. If a frame wall assembly is required to be constructed behind a structural block wall, it's an inefficient use of construction materials and greatly increases construction costs. Don't force building owners to sacrifice the concrete masonry benefits they desire for little to no energy savings in return. Additionally, when you consider the energy required to manufacturer, transport install, and maintain the additional wall materials required by the mass wall proposal, it may actually be counterproductive to do so. This is especially problematic at a time when the construction industry is facing the challenges of labor shortages, material supply problems, and inflation. For the numerous reasons presented, the masonry industry asks the Council to disapprove the proposed mass wall changes, keeping the current requirement in place. Sufficient documentation to support these proposed code changes has not been provided by the proponent. Of the country, the challenges to the masonry wall requirements have been thoroughly vetted by past Councils, with the decision reached, each time, to support the current code provisions. |
| **Ali Lee** | I'm a health and equity and community builder and I support the code changes. Yehow, means everything. On Snohomish land and there's some fifteen streams and this goes further than just talking about gas, but I hope that we can get into talking about community. Fifteen streams run through the area and, as we know, salmon is an important sort of commodity here in the State of Washington and something that we have on our tables each day in. In 2018, a gas line was going in, we need to remember that gas leaks happen all the time, and as the gas lines go in, we have to remember that they were only eleven feet from homes and may they be litter not into our gas ranges as a flow through the pipes, we need to remember that they are leaking all the time, we're breathing it in. When a child walks by and smells gas and says what's that stinky egg smell, it's a gas that they're breathing in. We have to also remember that as they say in their community because they're only eleven feet away is that it's like putting a bomb in your house each day. This is the fear they have in this community. Eleven feet is how far a pipeline is |

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| | from a home and blast radius of 150 feet. We are piping this poison into our aging homes each day and our elderly, and our children are a part of this. In our aging buildings, we know that the pipes need to be restored and we know that they can then blow at any time, and we need to make sure that we can then stop this. We talked about climate change, by 2030, we need to have 1.5 degrees, we won't make it unless we have more of an aggressive agenda. Code adoptions will help with then changing the scenario for impacted communities and all communities. Heat pumps are needed, electrification is needed, as we then head into the heat downs again and the cold winters that we've been having as well. Yehow, again, means together we can, in our community, we can create healthy homes healthy buildings and healthy communities. |
| **Jonathan Kwong** | I'm an undergraduate at University of Washington, Seattle. I am actually from Guam, which is the frontline community for a lot of like the climate crisis and impacts that do occur in the pollution that comes out of the US. I would say that one thing is, we should also focus on the carbon emissions, because it impacts the globe, but I would focus more on the different types of gas emissions like methane and nitrous oxide that come out of these outdated codes and need to be reformed, because those are impacting the local community at a really incredibly high rate. Childhood asthma is one of the leading causes of student absentee and I would say that I have definitely also experienced just an illness from all the pollution that comes into Guam. Coming to Washington, I would say, if there is an opportunity to change the codes and to electrify buildings to definitely consider that. I would also urge you to consider that capitalism is a wage-based economy and people who don't make wages like caretakers of children, people with a disability, the elderly. People who don't make wages are not considered in the reports. They're not considered in the fiscal matters, they're not considered when making decisions, and I would urge you to consider that those are also the people staying at home. Those are also the people who have to deal with those natural gas the most, they don't go to work because they are the ones keeping the entire economy running. They're the ones keeping everything together, but they're not recognized within the capitalist economy. I would say that climate justice cannot occur without racial justice and class justice. Climate justice is very intersectional and requires way more voices and way more just input and changes that might be more costly, but the difference in especially in the Pacific Islands between 0.5 degrees is the difference between a home and eroded piece of land that is desecrated, so I would say that is my comment. |
| **Coleen Anderson** | I live in Yakima and I'm a volunteer with 350 Yakima Climate Action, testifying on behalf of myself and in support of changes that will restrict fossil fuel equipment and require clean, efficient heat pumps for space and water heating. I'm a grandmother of five and would love to see my grandchildren and their children grow up in a clean and healthy world. Wildfires in Yakima are increasing in frequency and intensity, annually. A few years ago, my oldest grandson risked his life when he volunteered, for a season, with the Yakima Wildland Firefighters. The smoke from those fires was so thick, here in the city, that we had to stay inside our building and keep windows shut, day and night, even though it |

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| | was sweltering outside. Many people throughout the state cannot afford air conditioning. Sadly, this past June, here in Yakima, two young men, in their 30s, died from “inaudible” causes. The climate crisis is here and now. We know that buildings are one of the largest and fastest growing sources of content pollution in Washington. Studies reveal that homes with gas stoves have 50% to over 100% higher nitrogen dioxide levels in their indoor air then homes with electric stoves. This can lead to heart failure and asthma. Children and homes with gas stoves have a 42% increased risk of asthma symptoms. Adopting clean codes will reduce the harmful outdoor and indoor air pollution associated with the use of gas appliances in buildings and will reduce the disproportionate impacts that air pollution is having an underserved community. Electric heat pumps efficiently do both heating and air conditioning, together. Adopting clean codes “inaudible” avoiding costly retrofits in the future, as our state increasingly moves to electrification. In building fully electric buildings, eliminates the cost of hooking up new buildings to gas line. Strong codes build resiliency and better benefits and ultimately healthier buildings. The time to act is now, I urge you to move forward complete package of proposals today. Including the heat pump proposal, it's time to transition toward decarbonizing the building sector today. |
| **Kathleen Petrie - King County** | King County supports proposed amendments that continue to move us towards building electrification, provide equitable access to clean energy systems, and job creation. In particular, we are in strong support of heat pump proposals and other amendments that we will be outlining in our subsequent written testimony. The built environment is one of the largest sources of carbon emissions in King County. In a 2017 inventory, emissions from the commercial built environment where 22% of all emissions. The county participates in a group called King County Cities Climate Collaboration, otherwise known as K4C. This is a coalition of local governments, which include King County, 18 cities within the county, and the Port of Seattle. Confronting climate change and accelerating the transition to clean energy economy, are top priorities for K4C. The jurisdictions in the K4C represent 80% of King County’s 2.25 million residents. K4C jurisdictions also represent nearly 25% of Washington State's total population, one quarter. Most jurisdictions do not have the capacity to develop and adopt local amendments such as what is being proposed to your today. So, we rely on the State Building Code Council’s leadership and action to approve for the adoption of strong energy codes essential to reaching our carbon emission reduction targets. One last thing I'd like to chat about, we would like to speak in support of 21-GP1-208. CMU walls with integral insulation in their empty cores loose heat at more than six times the rate of other common wall types, all winter long. We're one of only two northern states that allow this and it's the only provision in our state's code that is weaker than the national standards. It's past time to get rid of this antiquated code allowance. |
| **Larry Andrews** | I'm a mechanical contractor in Spokane, Washington. First off, I want to tell you that today and last week, the PPM of CO2 in the front of my office was 375 parts. That's a significantly lower amount than that's been broadcast is where the problem is and we're in the Spokane area, you got to remember we're a farming, timber, mining community over here. |

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| | I'm totally against 21-GP1-103, 136, 177, 174, 175, 179. I've heard a lot today, but you got to remember in 1950, 1960s, there was no air conditioning and 30% of our global warming is caused by air conditioning. And here, I hear everybody, they want to add air conditioning. That's going to raise the temperature outside. All these heat pumps you put in is going to make it much hotter in the summer and it ain't going away, it's getting worse, because we're putting billions of BTUs out above the average temperature outside. The other thing is, right now, there's not enough electricity, we already had brownouts last year in Spokane. We don't want to have any more. There's nobody building any more power plants to take over for this right now, but you want to expand the electricity. I have yet to find a heat pump that can heat at five below, at a reasonable be to output. We get 20 below, here, seen it more than once and I've seen weeks where we have five below, almost consistently. So, I'm pricing out a job here, and I use my own building to give a representative what it would cost to do this project in heat pumps. We have roughly 5,000 feet. If we did with heat pumps, we'd have to take six 10-ton heat pumps, to do what one 250,000 BTU heater would do. That cost is $179,000 installed. One heat pump, one unit heater hanging in my garage, out here in the warehouse, will heat it and we can install that for $6,500. Now, you got to remember the unit heater that's installed, in the back, will last 35 years. Your heat pumps will barely last 15 years. Okay, and so you're going to be replacing them at another $175,000 to $200,000, so we're not talking little dollars here and our place isn't that big. As you look at the performance of the heat pump, at 50 degrees and puts out 112,000 BTUs, 10-ton. At zero degrees, it only puts out 45,000 BTUs. The cost of this is ridiculous, it's beyond ridiculous. We don't have the energy. We need to take this energy and apply it to all these vehicles that are 36% efficient. Not our gas furnaces that are 80 to 99% efficient. I will follow up with written comments and have documentation that has parts, labor, and everything in it. |
| **Brian Emanuels** | I'm a resident of Mercer Island and volunteer with several climate advocacy organizations. Primarily, working with cities and counties around the state in support of their efforts to meet local and state climate commitments. I'm testifying in favor of this proposal and urge all to vote yes. As you've heard today, our state is legally required to reduce greenhouse gas pollution 45% by 2030 and reach net zero by 2050. Last year the Legislature passed the Climate Commitment Act to enforce these limits which will require natural gas suppliers to acquire rapidly declining and thus increasingly expensive pollution wall outlets, as gas use is phased out entirely over the coming decades. CC is a critical long-term strategy, but in order to implement in a way that doesn't create huge and unnecessary costs, it needs companion policies like that which you're considering today to ensure every sector of our time, including new and existing buildings, stops burning fossil fuels as quickly as possible. The first step has to be to stop digging the hole deeper to stop building anymore new buildings with new gas appliances which will condemn building owners to inevitable increases in volatility in fossil fuel heating costs, which will eventually have to be ripped out and replaced with heat pumps early in the building's lifestyle. Remember that |

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| | those who construct buildings are not those who pay the bills, so this is a classic example of split incentives. Kulani gas use just makes no sense when they're better player heat pump options available now which take advantage of Washington's increasingly putting electric grid which have the added benefit of also providing air conditioning, which is increasingly vital in our warming climate. It's time to signal to the market that we need to move to all electric buildings. Now remember, this happens over time, in fact, these codes will not go into effect until June of 2023, allowing time for manufacturers and the building industry to prepare. Given the length of time it takes to pull apart and construct the building won't be until at least 2024 that most commercial buildings will be impacted by this code. From the perspective of Washington cities and counties, while they could implement these proposals locally and several recently have, it's simply not practical and certainly not efficient to make these code changes over and over again in multiple jurisdictions across the state. Our local governments have limited staff resources and expertise and most simply won't be able to replicate what larger cities like Seattle and Bellingham have got. It would be far better if they and our state's construction industry can rely on you are States experts do this work once, in a uniform way, for the entire state to ensure that every community in our state that just a few do their part to meet our climate commitments and enjoy the health, safety and cost benefits that were resolved. You've heard from over 60 people today, including builders, engineers, architects, health professional, state leaders, legislators, attorneys, local elected officials, city and state staff, teachers, an expected mother, environmentalist, Providence Health, and even one surprise singer, today, overwhelmingly supporting this suite of Commercial Code updates. I urge you to adopt these codes on April 22. |
| **Kevin Krebs – Mason Industry Promotion Group** | I'm the Executive Director of the Mason Industry Promotion Group, representing union mason contractors, bricklayers, and hod carriers, in eastern Washington. We are requesting disapproval of mass wall amendments 207 and 208 and requesting they be removed from the group changes going forward. Here's why; the concrete masonry exception for mass walls is only allowed in certain building types, such as gymnasium, big box stores, warehouses, etc., where a hard durable surface is required and can be built with a single rise concrete masonry wall, as long as 50% of the cords are insulated and where does not cost effective to require more wall insulation in these building types. The energy code currently includes other similar exceptions for other building materials, for example, log and solid timber walls are excluded from wall insulation requirements due to thermal mass properties similar to concrete mainstream. Wireless service facilities are also exempt from the thermal envelope provisions because it's not cost effective to require wall insulation in these building types. Additionally, the code contains a prescriptive glazing alternative, allowing the 30% maximum area limit to be exceeded. This is permitted even though glazing is the weakest part of the building thermal envelope. Architects and engineers chose single walls CMU design, because the sustainability, durability and cost effectiveness CMU brings. Concrete masonry can be a load bearing structural material, provide durability as a finish, and providing sound deadening characteristics, all in one product. Having one material |

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| | provide all these benefits not only improves the performance of the space of revised sustainability and initial build and long-term cost effectiveness. By eliminating the need for multiple materials, multiple finishes and far less maintenance. These mass wall provisions are very important to the mainstream industry. Over the past five years, this concrete masonry has created $15 million worth of wages and benefits for our hard-working bricklayers, hod carriers in eastern Washington alone. Adding unnecessary requirements to an already efficient building material will raise construction costs significantly, particularly for public schools, our biggest customers. School districts and taxpayers will have to pay more for less durable material. We ask that you keep this commonsense concrete masonry exception in place. |
| Adjourn | The Hearing was adjourned at 2:19 p.m. |