



STATE OF WASHINGTON

**STATE BUILDING CODE COUNCIL**

1500 Jefferson Street SE • PO Box 41449 • Olympia, Washington 98504  
(360) 407-9277 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

**STATE BUILDING CODE COUNCIL  
PUBLIC HEARING RECORD**

**Hearing Date and Time:** Thursday, September 29, 2022, 10:00 a.m.

**Council Members in Attendance:** Chair, Tony Doan; Kjell Anderson, Jay Arnold, Todd Beyreuther, Micah Chappell, Craig Holt, Peter Rieke, Representative Alex Ramel, Senator Lynda Wilson

**Staff in Attendance:** Stoyan Bumbalov, Managing Director; Krista Braaksma; Dustin Curb; Annette Haworth

**Others in Attendance:** Colleen Anderson, Larry Andrews, Mike Brown, Charles Chesney, Bob Cox, Dennis Davis, Andi Hochleutner, Ty Jennings, Ali Lee, Tim Lovelass, Russell Maier, Scott Ongley, Scott Peterson, Christine Reid, Brian Ricker, Andrea Smith, Alona Steinke, Steve Tapio, Ivan Velasquez, Mark Vossler; Bryan Ahee, Neal Anderson, Tara Anderson-Williams, Robert Bajema, Simon Bakke, Kim Barker, Gretchan Blum, Ken Brouillette, Joseph Calhoun, Kris Carlson, Ian Casey, Tracy Ceravolo, Cathryn Chudy, Heidi Cody, Pamela Colley, Chris Covert-Bowlds, Greg Davenport, Andrew Davis, Joe Deets, Brian DeHart, Cyd Donk, Joel Donofrio, Annemarie Dooley, MD, Kevin Duell, Kristin Edmark, Brian Emanuels, Mike Fowler, John Frankel, Marivel Garcia, Martin Gibbins, Gary Heikkinen, Karen Howe, Melinda Hughes, Mary Hull-Drury, Natasha Jackson, Jonathan Jones, Paul Jouannet, Joe Kear, Connie Kelly, D Kelly, Ken Kiker, Dan Kirschner, Paul Knox, Jonny Kocher, Rachel Koller, Patrick Lambert, Ava Larsen, Riley Lynch, Russell Maier, Robert Marino, Rick Marshall, Cristina Mateo, Ted McCammant, Jeanette McKague, Sameth Mell, Ryan Mello, David Morton, Chuck Murray, Jenny Nickerson, Stephanie Noren, Annie Phillips, Sara Pineda, Dylan Plummer, Tena Risley, Sloan Ritchie, Chris Roberts, Joëlle Robinson, Kevin Rose, Bill Sampson, Ruth Sawyer, Naghmana Sherazi, Jessie Simmons, Allison Skidd, Tom Smithson, Hans Solo, Alona Steinke, K Stevenson, Gavin Tenold, Travis Terry, Quyen Thai, Jennifer Thomas, Kelly Thomas, Holly Townes, Simon Vickery, Rich Voget, Dan Welch, Steven Wilcox, Ken Zirinsky

<b>WAC 51-11R, Adoption and amendment of the 2021 Washington State Energy Code, Residential</b>	<b>WSR 22-17-149; 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 options are provided. Testimony on the preferred option is requested.</b>
<b>From:</b>	<b>Testimony</b>
Andrea Smith, BIAW	Building Industry Association of Washington (BIAW) has 8,000 members across the state representing all segments of residential construction. Our members build the places Washingtonians call home. First, I wanted to express our appreciation of all the work on this code from TAG members, council members

	<p>and of course staff. I'm here today to testify in opposition to many of the energy code proposals currently included in the CR-102. Further, we are extremely concerned that a third-party cost analysis that's required by law won't be provided before a vote by the SBCC. Not adequately understanding impacts to housing affordability is a disservice to our state. Additionally, two proposals related to plumbing systems were not vetted by the Plumbing Code TAG, so we have not gained the proper input from experts that install these systems every day. Washington is 270k housing units short and if the code is passed as is, will result in increased costs of as much as \$24,000. Increased costs of building (absent of other market factors like inflation of building materials) further restrict our housing supply, putting our state in a deeper housing affordability crisis. We should be focusing on controlling costs where we have the power to do so, such as the energy code. The most expensive pieces of the code are the two proposals dealing with mandatory heat pumps for space and water heating. In comparing the popular setup of an electric water heater and gas furnace to heat pump water heaters and HVAC systems, we estimate that alone will increase the cost of building by more than \$8,300. The true cost to a homeowner over the life of a thirty-year mortgage is more than \$25k. It prices out 18,363 families from their ability to purchase the median priced new home. There are other concerns that we will submit in writing.</p>
<p>Ty Jennings, Cascade Natural Gas Company</p>	<p>We are a gas provider here in Washington State. Washington is set to be one of only three States in the nation to adopt the energy code based upon the 2021 International Energy Conservation Code. Amongst that we are actually proceeding to edit that code well beyond the base code developed through the International Code Council. The three fourths of the country are already relying on the 2012 or earlier adoptions of IECC Washington is going to be well above any other State, and it's going to cause our housing prices to get that much worse. We must be considerate of the costs that are going to be encumbered by homeowners, as we face this housing crisis and a possible recession. I encourage the members of this board to consider the removal of proposals 21-GP2-065 and 21-GP2-066, collectively known as the Heat Pump Mandatory Rules. These proposals will incredibly disservice homeowners here in Washington State, as they will not be provided with the fundamental right to energy choice. As we move forward in Washington. We must be cognizant of greenhouse gas emissions. However, gas has a role in that. We can help reduce greenhouse gases if we are allowed to be a part of the solution. We are aggressively pursuing opportunities for renewable natural gas, hydrogen, and other emerging technologies. However, with these proposals, innovation will be stifled, we will put Washingtonians at risk, as they are forced to electrify. If we look at what's gone on in California, Texas, and even what's going on today in Florida. When people lose energy, lives are put at risk. Gas is safe, affordable. It does not depend upon an above ground grid, which honestly, may be up, may not, during severe events. We must be cognizant that we need to protect Washington lives, and natural gas is one way to do that. I please urge you to remove proposals 21-GP2-065 and -066.</p>
<p>Jonny Kocher, RMI</p>	<p>RMI is a climate policy, nonprofit working to accelerate the clean energy transition. I know that you worked very hard this last year, and I really appreciate all that you've done. We encourage the SBCC Council to pass all proposals today, especially proposals for heat pumps and heat pump water heaters. The proposals being discussed are a modest and necessary step towards the goal of decarbonizing the building sector. Buildings contribute a quarter of all greenhouse gas emissions in the State of Washington, since over eighty percent of electricity in Washington is already carbon free, with one hundred percent required in the future switching off of burning fossil fuels and onto cleaning electricity is especially effective. RMI has recently completed an updated cost-</p>

	<p>benefit analysis for the heat pump proposals and found that all electric homes cost less to build the mixed field homes in both Seattle and Spokane. The 2400 square foot code, compliant, mixed fuel hall with an air conditioner for cooling costs \$7,587 more than a code compliant all electric building in Seattle. In Spokane, it costs \$7,248 more. The reasons for the upfront cost savings for all electric buildings are because heat pumps can both heat and cool, avoiding the need for separate pieces of equipment, such as an AC and a furnace. Electric homes don't need to install gas infrastructure both inside and outside of the home and mixed fuel homes are required to achieve additional energy efficiency credits on the R406 table, which adds thousands of dollars of extra construction costs. We simply cannot continue to add fossil fuels to buildings that we know that we need to remove the next 25 years. It does not make sense for a climate and does not make sense for future generations that will be burdened the high costs removing these appliances. This is why the 2021 Washington State Energy strategy suggests that building electrification with the least cost strategy that decarbonize and also gas homes do rely on electricity for their blowers the fans that blow the air around the building, so they themselves are not resilient during power outages. I hope that the Council will vote this November to begin the process to decarbonize the residential building sector.</p>
Ryan Mello	<p>I serve on the Pierce County Council in Pierce County, Washington, and I want to thank the Washington State Building Code Council for the opportunity to provide testimony today, and I am providing you feedback as a local lawmaker. I really appreciate all of the really intentional and thoughtful work each and every one of you are doing on these important matters. You're clearly putting a lot of really clear thought into it, and the people of Washington are grateful. I'm here today to urge you to adopt the proposed energy code updates that are in front of you that you've refined over the past many months. Moving away from methane gas in our buildings is really important for addressing not only the climate crisis, but to make our buildings and communities much healthier and more affordable. As a local lawmaker as we work to both build affordably and provide more homes and more affordable homes for our community, which we are in desperate need of; and as we were to meet our climate goals, it is absolutely impossible for us to do so without the without the leadership of the State Building Code Council. We've recently released a report because of yesterday that demonstrated in the Puget Sound region when we updated our greenhouse gas analysis, economy-wide greenhouse gas analysis from 2015 to 2019, we actually are going in the wrong direction. We have increased greenhouse gas output by sixteen percent in that time period. We are going in the wrong direction. We know homes and buildings are a big contributor to greenhouse gases, and we absolutely have to do everything that we can across all sectors. We've done so much in the transportation sector as a state and for the fuel sector. It's now making significant more progress with buildings and homes, and of course, affordability needs to be a really important a priority for us in Pierce County, and I know communities across the State of Washington. And building homes that are able to be responsibly heated and cooled, long term makes them more affordable for our joint constituents. This is pro affordability. This is pro climate. This is pro public health, and I urge your adoption of the amendments in front of you.</p>
Naghmana Sherazi	<p>I live in Spokane and work for the Lance Council. I would like to urge the Council to adopt a proposal under WSEC-Residential provisions and have a few points to bring to your notice. My son was about thirteen years old when he was working on sustainability merit patch as a Boy Scout. I remember he came to me asking if I knew what fracking was. I did not. We researched the topic together, and I was truly appalled to discover how terrible it is for the environment. In Washington most of the gas we use in our homes is expensive and brought to us by fracking. Gas extraction from fracking largely takes place on or near tribal or first nations</p>

	<p>lands, creating this population at risk to indigenous communities for air, pollution, water contamination, and overuse of water. In Washington State homes and buildings are the fastest growing source of carbon emissions with this increase largely attributed to the direct use of methane gas in appliances like hot water heaters and furnaces. People spend the majority of their homes indoors up to ninety percent of their lives. And yet indoor air quality is estimated by the EPA to be two to five times more polluted than outside air, when we burn gas indoors. My son suffers from asthma, so, this is particularly relevant to me.</p> <p>Washington's 2021 State Energy Strategy found that electrifying homes and buildings will be the lowest cost pathway to meeting the State's climate goals of reducing emissions, ninety five percent from 1990's levels by 2050. That's how long it's going to take. A new Stanford-led study reveals that methane leaking from gas burning stoves, installed in US homes, even when they're turned off, has the same negative impact on the environment as the carbon dioxide emitted from around five hundred thousand gasoline powered vehicles. I urge you to adopt the package in light of these points that I brought to you, so that we can continue to live in a healthy and green environment.</p>
Dan Welch	<p>The principal of Bundle Design Studio, a small design firm in Bellingham, Washington. I'm speaking in support of approving the residential energy code updates. I started Bundle in 2013, organizing our business model, national, state and local climate action plans. This business model is important, as buildings are the largest and fastest growing source of carbon emissions. It is imperative to move towards all electric, efficient buildings to meet these climate goals. Since 2013, our office has completed hundreds of residential projects, all of which include insulation, air, ceiling, and HVAC strategies that closely reflect the proposed updates to the energy code. Through these projects what have we learned? In 2013, our projects were way ahead of the curve, significantly exceeding Washington State energy code. Over the past nine years we have seen improvements in the Washington State energy code improvements in material and product technology and increased access to high-performance products, such as heat pumps, heat pump water heaters and HRVs. These changes have moved our projects from the exception closer to the industry standard. Provide effective solutions to meet state climate action targets with materials and technologies that are available right now, and in return occupants have a building that is healthier, more comfortable, and durable, and costs significantly less to operate. From our offices experience, we find that the proposed changes to the energy code are easily attainable, will have significant impacts towards state climate goals and consumers for this reason we stand in strong support of the energy code updates, including increased energy credits, heat pumps for space conditioning, heat pump water heating and increased air tightness requirements.</p>
Martin Gibbins - LWVWA	<p>I am Climate Change and Energy Issue Chair for the League of Women Voters of Washington. I am speaking today for the 2200 League members in Washington. I base my testimony on League positions that reflect careful study of issues covering health care, justice, energy, and climate. The League of Women Voters of Washington supports the building codes that require heat pumps for space and water heating in new construction. Our membership understands that the increasing disruption of climate change is a threat to good governance and equity of our citizens and residents. Therefore we urge you to adopt the proposed energy code changes for new construction of single-family dwellings, duplexes, and townhouses to require heat pumps for space and water heating. This will both improve energy efficiency and reduce greenhouse gases in homes as required in the Revised Code of Washington. Scientific studies have also shown that methane leakage and burning byproducts degrade the health of the residents, most significantly children. Therefore, we also support the</p>

	<p>proposed requirements for additional ventilation when new homes include methane for cooking. We agree that revising building codes to improve the efficiency and expand clean energy will ensure we make the right investments in the health and financial outlook of WA residents. The investment we make in clean heat pump systems and in electrifying homes for everyone will pay back with reduced energy costs over time, improved health, and reduced health care costs. We must ensure that all Washington residents have the opportunity to enjoy these benefits. Our nation must take action at all levels of policymaking: federal, state, and local. Washington must continue doing its part as a leader in confronting climate change.</p>
Colleen Anderson	<p>I live in Yakima and am a volunteer with 350 Yakima Climate Action testifying on behalf of myself and in support of code changes that will restrict fossil fuel equipment and require clean, efficient heat pumps for space and water heating in new residential construction. I'm a grandmother of five and concerned about their health and safety as fossil fuel emissions continue to pollute the air they breathe. As a volunteer Wildland firefighter, my oldest grandson risked life and limb to put out fires that surrounded Yakima and our state with smoke. As the climate crisis intensifies, we are seeing more people injured or dying from its effects. Buildings are one of the fastest growing sources of climate pollution in Washington. Studies reveal that homes with gas stoves have fifty to four hundred percent higher nitrogen dioxide levels in their indoor air and those with electric stoves and pose a forty, two percent increased risk of asthma symptoms to children. Strong codes now will build resilient and healthier buildings going forward. Waiting would not only prolong air conditioning, but would mean costly retrofits in the future, as our state increasingly moves to electrification. The time to act is now, I urge you to adopt the proposed energy code updates. It's time to transition toward decarbonizing the building sector today for our children and grandchildren's sake. We deserve the freedom to breathe clean air.</p>
Cristina Mateo	<p>I work for FMS Global Strategies in the Washington Build Back Black Alliance. We are a BIPOC firm who represent many residents in Washington State, where equity, clean energy, and environmental justice is concerned. Many Washington State residents and families of color are directly affected by these state building codes. I urge you to adopt the proposed energy code updates because moving away from methane gas in our buildings is important for addressing the climate crisis. These code proposals are also important for health reasons because they play a key role in d-incentivizing gas cooking. Just the economics of cooking of gas just for cooking, many cities found and documented how harmful this is for health! Lower income households may also be at a higher risk of exposure to gas stove pollution because of smaller unit sizes, more people per home, older homes with more ventilation and using stoves or ovens for supplemental heat Gas stoves release unburned methane through leaks, even when they're off. Research shows that yearly leaks from all gas stoves in the US could have as much of a climate impact as emissions from five hundred thousand passenger vehicles. Transitioning to clean energy is imperative for all Washington State residents, especially the underrepresented families, dependent on voices such as ours to share their experiences and concerns.</p>
Holly Townes	<p>I am a Washington State license mechanical engineer who is specialized in energy efficiency in buildings for almost 40 years. I worked for two Washington utilities and have been an active ASHRAE member and experts. Buildings are the second largest contributor to greenhouse gases largely due to the use of gas for space and water heat. And I support this proposed energy code to increase efficiency, require heat pumps, and largely eliminate fossil fuels for water and space heating. ASHRAE, which dries and represents the full HVAC industry, has made it clear that transitioning our buildings to heat pumps along with other efficiencies, is the most cost effective and proven way to address climate change</p>

	<p>in buildings, especially since our state is moving to clean electricity. Gas is no longer the transition energy for our State. It is far cheaper to make changes during construction and avoid the extra cost of retrofitting. As an ASHRAE member, an engineer, I urge you to support this next recommended step. There are some in the industry that feel, understandably, threatened by this change to clean electricity. But we must and can make this transition. And as a parent and grandparent, I ask that you give our discouraged young people hope about the future, now. Do not delay this another three years.</p>
<p>Ali Lee, Climate Solutions</p>	<p>I am the Health and Equity of Buildings Consultant for Climate Solutions. I am testifying in favor of the updates. You have before you the opportunity to drastically improve the air quality both indoors and outdoors. I work in communities that suffer disproportionately. They are poor communities and also impacted communities as far as their income and are people of color. The most important thing to remember is that not everyone is linguistically available, as far as being able to read or to understand a lot of the information, so the more that we can make that available to them the better. So that that way we have equity across the board. These communities also have higher risk of death due to particulate matter, in part due to historical impacts of red lining that have led communities of color to be pushed to the places of greater exposure. Gas appliances, also in homes and buildings create outdoor air pollution. In fact, in Washington they generate more than two times of nitrogen oxide than power plants do. And we also know that the impacts of climate change are creating insufferable heat throughout our summer months, and that will only worsen using heat pumps for space, heating and cooling is a win-win in our communities, all of our communities. Better air quality is important. The air that we breathe for our children to have a greater future is important to all of us. In keeping of this, it's essential that we then keep to the forefront communities that are the hardest hit. Here in Yakama, we have farm workers and many others that then need resiliency centers and heating and cooling centers as well, and that's what he pumps will do to help to then equal the playing field.</p>
<p>Sameth Mell</p>	<p>I'm with an organization called Spean Rajana, we're a Civics and Arts organization. We do work here in the States and internationally in Cambodia. We've been working with King County on heat pump programming and installations for their unincorporated King County and I'm here to testify to support the code updates at the State level with you all here. We know that adopting clean energy codes has positive impacts. There are impacts on families, impacts on people's livelihoods, the impact on communities, and we also all know that supporting the transition to clean energy also supports future generations, and also means we're investing in future generations down the line. I mean, in short, electrification is the future, and it is here. And this is a really great space for us to really start this with these of code updates as well and transitioning off of gas is like really important to communities that we work with. We know that cleaner buildings are safer buildings, and it also creates healthier communities. It really comes down to a people-centered work, people centered energy codes and people-centered policy. Please, I urge the Council to adopt the energy code updates so that we can all live healthier lives and live in a healthier place and healthier homes.</p>
<p>Brian DeHart</p>	<p>I'm a product designer, musician, and outdoorsman. I urge the State Building Code Council to adopt the energy code updates, ensuring that new homes are built for the present and the future by using technology that is far superior to methane emitting natural gas. Using heat pumps instead of outdated technology for space heating and water heating, lets Washingtonians live free or healthier lives in a few different ways. Heat pumps are two to three times more efficient at using energy than the most efficient gas heaters, meaning less energy is needed in the first place, electricity is cleaner to begin with. For gas heating, the</p>

	<p>methane is guaranteed to leak as it is transported, is 25 times worse of a greenhouse gas than even CO2, according to EPA research. All of this means we'll have cleaner, healthier air, and be able to reach the statewide emissions targets that we've set. It also means we need less energy to begin with, as energy crises continue worldwide. In the future the risks will only continue to grow. We need to be free from the risks of gas and live in a cleaner environment. Second, heat pumps to provide the option for air conditioning. Statewide, we've had the hottest July and August on record this year, according to NOAA, as temperatures keep rising. New homes should not be built without air conditioning now because it is a safety risk. Heat pumps are the perfect way to affordably address this issue. Finally, the operating costs will be better than gas, as we move forward. The price of gas is extremely volatile, especially in these current times. Electricity has a great ability to be expanded as we build more renewable sources and keep energy production under our control.</p>
Heidi Cody	<p>I live in Vancouver, Washington, where our city is poised to adopt one of the nation's most ambitious climate action plans. Vancouver's goal is an eighty percent reduction in greenhouse gas emissions by 2035 citywide. That's less than thirteen years from now. Vancouver is growing rapidly, and there are a lot of residential buildings being built. The reality is, there is no way that Vancouver can lower our GHG emissions by eighty percent in twelve or thirteen years, if new residential buildings keep connecting to gas for heating, cooling, and hot water. I urge you to adopt the proposed residential building energy code updates today. Electrification is the fastest way to get gas out of buildings, and we need to transition away from fossil fuels immediately. I'm very concerned about climate change, and what it means for our future.</p>
Joe Kear	<p>I live in Skamania County. I am a certified duct tester by the energy program at WSU, and during the pandemic I was asked to substitute for an employee, and I did lots of testing in Yakima, Yakima County, and Klickitat County, testing new construction and some remodels for the energy efficiency under the existing code, looking at the envelope of the building and the efficiency of the ducting systems. I wanted to just comment that, you know, ducted systems are not as efficient, if the ducting is outside the on the work of the building and the installation of the building. They're more efficient if they're inside, like between floors. But the most efficient system is a ductless system, and from my experience with testing, in my training, I understand that heat pumps are really more efficient than force air gas or forced electric, and with the heat pump systems you can have ductless systems. I am very encouraged by the changes, the efficiencies and the fact that we're moving away from fossil fuels, which is our future. I'm here to support the proposed code changes, and I urge you to adopt.</p>
Neal Anderson	<p>In arguing against heat pumps, the gas industry has hinted that they won't be necessary because they're working to deliver cleaner less carbon-intensive gas, but they haven't offered a lot of details on that, and it's because they know that this claim falls apart when you start looking into what it would actually require. They do describe their basic plan on their website, saying they'll get there with a mix of renewable natural gas, and the green hydrogen. RNG will only be able to provide a tiny fraction of this. They're really pinning their hopes on the future, where appliances burn green hydrogen as a way to decarbonize our buildings. So, let's see what that would take. Compare their solution to electric heat pumps. Let's say it's 2050, and we've gone the heat pump route, and that's what's in most of our buildings, and as the gas industry likes to point out, we would need a big new solar farm to provide the additional electricity. But now let's consider what would happen if we were using hydrogen instead, since it's green hydrogen, we would also need new renewable capacity to generate it. But a huge difference is that, using electricity to split water to make hydrogen is very inefficient and energy intensive compared to just powering appliances directly.</p>

	<p>You've thrown away more than half the electricity you've started with, just to convert it to a form that can be moved through pipelines. And then, when it's used, even more of the original electricity is wasted when you burn hydrogen, because gas appliances are so much less efficient than electric, around three times less for heat pumps compared to gas heating. In order to power the same buildings using green hydrogen, it turns out that you would need to build at least four, or even five new solar farms to supply them rather than the one it would take for heat pumps. This is one reason the gas industry doesn't like to go into details about their long-term decarbonization plans. But there's an even worse problem. Existing gas appliances can only handle a small amount of hydrogen mixed in with methane. When they get to about twenty percent, they'll be stuck, because beyond that there's an explosion risk, and the only way to increase the mixture is to turn off the gas to everyone to upgrade every single client on that distribution line simultaneously, then turn it back on with pure hydrogen. I don't even know how this would be logistically possible, but I would certainly ask them to provide a plan for how they'll solve this before accepting their hand waving and their vague assurances of a decarbonized future for gas. Electrification is really the only feasible alternative for eliminating carbon pollution for more buildings. I ask that you adopt the proposed energy code update so that we can begin phasing out methane and start on the only viable path to zero emissions.</p>
Alona Steinke	<p>I am a retired registered nurse and I live in Vancouver, Washington. I urge you to adopt the proposed energy code updates. Most of us are well aware of the harmful effects of air pollution. Our outdoor air is regulated. Gas appliances pollute both indoors and outdoors, and yet they are not regulated. Gas stoves leak constantly inside the home. That's why we need stricter ventilation requirements. Why did we ever think that burning fossil gas inside our homes was a good idea. I have efficiently heated and cooled my home with the heat pump for forty-six years. When my older electric range died recently, I replaced it with an induction range, and I love it. Heat pumps for space heating and cooling heat pump water heaters, and more strict ventilation requirements. This is your opportunity to have one of the strongest building codes in the US. Let's build now for a healthier and safer future.</p>
Scott Ongley, Northwest HPBA	<p>I represent the Northwest Hearth Patio and Barbecue Association. I'm the President. We are here to testify in regard to many of the things that talk about the electrification of Washington State in general. Insufficient, lacking, or inaccurate cost data means this code is being put together without objective information regarding the impact to consumers, housing costs and business that build houses, including the hearth products industry. Supplemental heating in Washington State homes is important. According to a 2019 study from the Institute for Health, metrics, and evaluation, which is at the University of Washington, four times as many people were killed from cold temperatures than from warm temperatures. While the focus of the energy code is on electrification and cooling via heat pumps, the Council is ignoring the need to ensure resilient, backup heating systems in our homes. Climate change may bring warmer temperatures. In the summer the reality in the Northwest could still be significant fall and winter storms that knock out power to homes during the cold months. Pressure on the electric grid, along with the demand from other States such as California for increased power, will put homes in Washington State in jeopardy of power outages, not when it is warm, but when it is colder. Residents in Washington utilize more electricity during cold weather events. Our building codes should not incentivize clean, burning backup options, such as natural gas fireplaces. The proposed energy code currently de-incentivizes natural gas through the credit options table and the need for builders to achieve a certain number of energy credits. This will result fewer houses being built with any ability to have natural gas run to the home. This will not only reduce the number of gas</p>



	<p>fireplaces installed in the homes originally, but it will also reduce the choices for residents who want to add them. No gas is run in the neighborhood, it would be prohibitively expensive to put in gas fireplaces after the home was built. One thing that keeps popping up, that it's kind of a myth, but I keep hearing that gas fireplaces, and when I say gas stoves, I'm talking about a free-standing gas stove. They are highly effective in a power outage; they do not require a blower. Most are sold without blowers. The blower is an option. These are eighty-five plus percent efficient back up heat sources, and our number one customer to all our dealers are heat pump homeowners. Today, twenty years ago, when it gets below forty degrees, the numbers can say what they want, but the homeowners flock through our doors to buy gas back up heat sources because their heat pumps don't work.</p>
<p>Rick Marshall</p>	<p>I'm a builder and developer here in Southwest Washington and I strongly support the heat pump proposals, and I think they're important for both building occupants and their neighbors. We've been building all electric for over thirty years, and what we quickly learned was that if you build to a decent cost-effective energy efficiency standard, I mean a high-quality shell they're really paying attention to air ceiling. And in our relatively mild climate, you just don't need that much heating or cooling. And speaking of cooling, really, that's been the biggest change for us in the past decade. When we started, AC was pretty optional, but everything we build now, or a remodel gets AC. It's not just the warmer summers, I think, here in Camas, we hit 30, ninety degree days this summer, but it's also air quality issues like wildfire, smoke, and smog, you know, which don't allow folks to open up their homes and air them out at night like we didn't past. The other thing we've noticed with our handful of rentals is that more and more people are working from home, and to do that, you know productively, and you really need a conditioned space. And so, if you're going to put in AC, then it just makes sense to go with the heat pump. We like to put in ductless systems because of the better efficiency and better zonal control, and we put them in new construction as well. It's really nice to be able to heat or cool a workplace in the home, and often the rest of the house doesn't have to be conditioned. But going electric also means being a good neighbor, we need to pay attention to the pollution we're creating and reduce it when we can. Most folks don't think enough about their energy use when they buy or rent to home. I think we have a responsibility as builders, to make sure we create homes that don't have adverse impacts for our neighbors and our communities.</p>
<p>Christine Reid, Political Director for the International Brotherhood of Electrical Workers Local 77</p>	<p>IBEW 77 has approximately eight thousand three hundred members in Washington, parts of Idaho and Montana. Our members provide the power, generation, transmission, distribution, and delivery to ninety five percent of the State of Washington. This is not our nation's first pursuit of electrification. And then there were unintended consequences, inadequate training, compromise, worker safety and increased fatalities. IBEW 77 celebrates 125 years, this year. We were formed out of necessity when our electrical worker mortality rate was fifty percent. Today we face our nation's second rush to electrify. Aggressive timelines put a strain on our existing grid, demanding increased generation on an already tax system and a highly skilled workforce takes years and thousands of hours to create. These cannot be rushed. We cannot compromise the training of our States recognized registered apprenticeships. High-voltage work, even with today's safety standards, remains one of the top ten most dangerous jobs. Let's learn from our history and approve upon it. The premature reduction and off lining of natural gas that results in changes to our dual energy system, create inherent dangers for our members who build, prepare, and maintain the grid. I ask that workforce safety and readiness remain a priority. On behalf of my sisters and brothers at the IBEW Local 77, I thank you.</p>

<p>Mike Brown, Assistant Business Manager for IBEW Local 77</p>	<p>To add to what my sister and colleague from Local 77, Christine, just testified on, when it comes to a full electrification in Washington State a lot of people are going to testify on the benefits of maybe construction of homes and those types of things. I want to speak about the impacts on the electrical grid, and also what that does as far as the workforce. In 2016, we started into a labor shortage with journeyman linemen. By trade, I'm a journeyman lineman myself. I've built and maintained this grid in Washington State. This grid is already taxed. Generations are already taxed, and we're starting to put a significant amount of demand onto this system. This system is going to take a lot of infrastructure rebuilds, substations, transmission lines and with all of those things, we come into the supply change shortages with transformers, wire, and those types of components as well as labor shortages and we're not going to compromise our safety and our training in order to accomplish these means. But one of the unattended consequences that we are failing to remember, not only is it with the labor shortages and those types of things, and where the electric grid is at, we've had a lot of conversations about permitting and sighting, and those types of things. But one of the most significant things that we're going to interface is a real estate issue. When we go to upgrade transmission lines and build new substations in order to endure this, that's going to be one of the biggest challenges that we're going to interface. It takes fifteen to twenty years to build a transmission line, and it's because of real estate problems. One example that I can give you; How much longer is it going to take to build the light rail system through Seattle? One of the biggest challenges of that is real estate?</p>
<p>Russell Maier</p>	<p>I'm a family physician, educator who lives in Yakima and works at Pacific Northwest University, the Medical School located here in Yakima. Today, I'm teaching in the Tri-Cities, and so I really appreciate this virtual option of it allows me to participate. I am testifying in support of 51-11 and in favor of the updates. Reducing methane, a major source of indoor air pollution and contributor to climate change through an update of the energy code, will benefit my patients and improve the work environment for farm workers, here in the Yakima Valley. I live in one of the poorest counties of the State. If you have or used ventilation to remove the toxic gases and particulates from the gas stove, the use of indoor stoves creates significant levels of indoor pollution, worsening health conditions such as asthma and particularly impact children and the elderly. Further, overall reduction of methane will reduce and lessen the impacts of climate change. Wildfire, smoke, and heat directly impact outdoor workers who harvest the hops and grapes from our valley, that you may enjoy as your evening beverages. For them to work safely outside intolerable weather conditions, we need to make these systemic changes. I'm a physician, not an expert on industry, but many of those have testified on the feasibility of these changes. We have clean power, solar wind and hydroelectric and incredibly safe, electrically powered heat pumps, and stoves. There's no impact to quality of life or future technology needed. Businesses will still sell equipment and builders will still build, and people will be healthier.</p>
<p>Joe Deets - Mayor, Bainbridge Island</p>	<p>I am speaking for myself. In late 2020, with the strong backing of the community, the Bainbridge Island City Council passed an ambitious but necessary climate action plan. The plans goals are to reduce greenhouse gas emissions by ninety percent by 2045 compared to 2014 levels. We are tackling this challenge broadly with some plans on energy, transportation, waste the natural environment, and what is relevant here, buildings. It has become apparent to us that the city cannot take meaningful progress in this key area without the help of some State agencies. One of those agencies is you, the State Building Code Council. I ask that the Council adopt the proposed code updates for new residential construction and require heat pumps for space and water heating. I concur with many of the people and organizations who have spoken today, namely, RMI, the</p>

	Pierce County Council, The Lands Council, Bundled Design Studio, League of Women's Voters, 350 Yakama Climate Action, FMS Global Strategies, Climate Solutions, and Spean Rajana as well as numerous private citizens. Making this requirement for heat pumps will benefit present future generations, not just on Banbridge Island, but throughout the State.
Paul Knox	I'm speaking as an affordable housing consultant, but also as a landlord, a small builder, and a remodeler. I'm here to support the heat pump energy code changes before you. I believe the time has come to move to using efficient and making standard efficient heat pumps in our residential housing. I've successfully installed ductless heat pumps in both new construction and existing older homes and have found them to be an amazing resource and cost savings to my tenants, as well as providing air conditioning where there was not before. I understand this difficult process and there's pros and cons of this, obviously, but I believe it's time for the State to move ahead in making these changes. Not only for health and climate change reasons, but also because it's the only way we're going to be able to eliminate gas and it is really a necessity. I think gas will cost more in the future. And we really need to move forward. I'm proud that our state is considering this. I think we will be one of the first of the nation, if you pass it.
Rich Voget	I'm a volunteer with the Sierra Club. Since June, I have collected hundreds of signatures petitioning you the State Building Code Council to approve the proposed energy code updates. We want to show you that there is widespread public support for your approval. You will be receiving the petition shortly. All I had to say was to tell the old adage that when you are in a hole, the first thing to do is to stop digging. Don't make the problem worse. People realized that allowing gas utilities to expand the use of frack gas into new residential construction would make matters worse by increasing greenhouse gas emissions that would then cause a warmer climate. In 2020, our State Legislature passed the Climate Commitment Act, which requires cuts in greenhouse gas emissions of forty-five by 2030, seventy percent, by 2040, and ninety-five percent by 2050. How are these reduction levels in emissions going to be met if you don't approve the proposed energy code updates. You are a Washington State Governmental Council that should be supporting and not undermining State law. Previous speakers today objected to the proposed code, saying it would increase the cost of construction. However, to meet the reduction levels in emissions today's new residential buildings will need to be retrofitted in the timeframe of the Climate Commitment Act from gas to electric heat pumps. It costs much more to retrofit, and it is not fair for those homeowners to have to pay for something that could have been avoided by installing heat pumps during initial construction. I urge you to adopt the proposed energy code updates because moving away from methane gas in our buildings is important for addressing the climate crisis, and it is fair for the homeowners.
Mark Vossler	I'm here testifying in favor of the proposed revisions to the residential code. I practice cardiology in Kirkland, and I serve as President of Washington Physicians for Social Responsibility. We are witnessing the impacts of climate change and air pollution in real time both globally and here in Washington. My colleagues and I recently released a detailed report describing the climate risk to Washingtonians, which I will send you for your reference. Buildings account for a large proportion of the greenhouse gas emissions in our State and offer a prime target for improvement. Since burning gas also produces dangerous levels of other pollutants, such as nitrogen oxides, reduction in the use of gas in buildings offers a significant opportunity to directly and immediately improve the health of our community. The pollutants, released by burning gas, increase the risk of asthma and other lung diseases, heart attack, and other cardiovascular diseases, dementia, and other neurologic diseases. Low-income and BIPOC communities are more likely to live in smaller homes or apartments and in

	<p>neighborhoods in proximity to other sources of air pollution, and therefore suffer higher levels of exposure and more affluent communities. This is an equity issue. Since electric home heating and cooking is readily available and cost-effective, there really is no excuse to continue burning gas causing harm to human health. In addition to Physicians for Social Responsibility, both the Washington Academy of Family Physicians and the Washington State Medical Association have identified burning gas in the home as a public health risk and call for policies to reduce its use.</p>
<p>Annemarie Dooley, MD</p>	<p>I'm a doctor and a member of Washington Physicians for Social Responsibility. I would have loved to have been there in person today, but I am on duty in the hospital today. You've already heard from a lot of other health professionals, so I probably don't need to remind you about all the kids in Washington State were exposed to asthma juicing methane gas in their kitchens this morning just by turning on a gas stove. I also probably don't need to remind you about the atmosphere warming carbon which is released from Washington State buildings every day, carbon which contributed to the recent fires and wildfire smoke, at least in my area, and sent people into the emergency room, here, in my hospital, looking for treatments for breathing problems. You know, wildfire smoke is not the new normal, it's really a disturbing trend of increasingly smoky, or on hot days in the Pacific Northwest. I ask the members I've heard of the trade and industry council before my turn, is that how many kids need to get sick? How many kids need to end up in the hospital, and how much do families need to give before they drop this opposition to a clean transition. Look, I can help individuals get better here in the hospital. But you members of the Council have the chance to improve the health and lives of millions of people. Please adopt these energy code updates.</p>
<p>Bob Cox</p>	<p>I'm a volunteer with 350 Yakima. My wife and I have lived in the Yakima Valley for the past fifty-two years. I'm asking you to adopt the proposed energy code updates with the additional, and I think, a critical consideration. I recently called an old friend, my college roommate, who lives in Dallas, Texas and has been working for the past thirty-two years in the gas and oil industry. What his concerns were about the inevitable movement to phase out most uses of fossil fuels. He was somewhat reluctant to speak candidly because of possible backlash. I assured him he would not be identified. He stated that his industry has known for decades that oil and gas production pollutes and compromises both the air and the water environments. But a business decision by the industry was made to ignore this issue as it was too costly to control the various types of emissions. He said his current and more critical concern is the vulnerability of thousands of good, hard-working, talented, God-fearing people that make up his professional community. They only want to use their talents to provide for their children and their grandchildren. In reality, we need these skilled people; the engineers, the building contractors, the miners, the drillers, the computer techs, the welders, the PR experts, the support staff, and long-haul drivers. We need them to help us solve the complex issues of shifting to a clean and sustainable energy. Every direct action that reduces the damaging emissions that are responsible for our increasingly severe climate events is vital. This code update is needed, now. Let's adopt it, as well as finding creative ways to support those children, families and communities that are going to be impacted. We can do both.</p>
<p>Sloan Ritchie, Cascade Built</p>	<p>I'm the President of Cascade Built. We are a small developer and general contractor in Washington State. We build very efficient homes and apartments. We are already building to beyond the standards that are being proposed here. So, I wanted to share the good news that it's both economically feasible to do so, and also technically and logistically feasible to do so. We design to these advanced efficiency levels, and on the general contracting side, we execute to</p>

	<p>these levels with typical subcontractors and suppliers. We also stopped piping methane into our homes. It isn't good for occupant health, as others have mentioned, and it's one less utility to bring in. I applaud the work of this council to move the codes along. It can't happen fast enough. The best and cheapest time to make these changes is during ground up construction. Retrofitting later is way too hard and expensive. When are you going to put in those better windows and extra insulation later? In closing, I will share a recent interaction I had with a builder I work with. He was asking me about an electric heat pump system, and the system sizing was on the cusp of two different systems, and he said so, we could just use the smaller, cheaper heat pump system if we bought better windows and insulation, and it was a light bulb moment. Sometimes it is that simple. I support the updates.</p>
Tracy Ceravolo	<p>I live in Clark County. Exxon's own scientists confirmed in the early 1980's that the burning of fossil fuels was causing the climate to warm and stated that we needed to usher in an era away from fossil fuels. Let me restate that this research was paid for by Exxon over forty years ago. We can see the Exxon squash that message and shows profits over morality. We need to stop building homes that are reliant on fossil fuels. Heat pumps have tremendously high coefficient of performance. Even at zero degrees, they're coefficient of performance is 2.2, which means that for every one unit of electricity, it's turned to 2.2 units of heat at thirty, two degrees each one unit of electricity is turned into 3 units of heat, and at fifty-two degrees, one unit of electricity is turned into 4 units of heat. And new technologies are emerging to make heat pumps more efficient in cold weather. As a bonus, heat pumps can also cool homes, which is unfortunately a vital and life-saving tool. During heat waves in this changing climate. We have heat pumps exclusively to heat our home and our rental, and we love them. They keep us warm, cool, and even filter the air when forest fires create dangerous air quality. On a personal level, my last home had methane gas for heating and cooking. I loved that gas stove. When I bought my current home and saw it was one hundred percent electric, I thought I'd need to pull a gas line up the driveway just so I could buy a gas range. When I moved in and start cooking on the induction stove, I completely fell in love with it, and I'm now an induction stove evangelist. It is instant like gas, with no toxic fumes, easier to clean and safer to operate. I say this only to emphasize that we really don't need frack gas pulled into our homes. Those Exxon scientists would be shocked to learn that forty years later we'd be continuing our addiction to fossil fuels. No one wants someone to lose a job because of a government mandate. But if we didn't change with the times in our history, we would still have slavery to keep slave traders employed. But we ended slavery because it was a moral imperative, not because it was easy. Keeping frack gas out of our homes is not only the right moral decision, but also the right financial decision. The climate crisis is the most expensive, complex issue ever faced by humanity. It is causing untold misery through drought, flooding, sea level rise, desertification, forest fires, loss of crops, loss of property and loss of life. It currently costs billions and billions to deal with annually and will only get worse. It does not make any sense to continue use of fossil fuels from an economic argument. Gas is costing us tremendously. I encourage you to adopt the proposed energy code updates.</p>
Steve Tapio	<p>I'm a project manager and building science team leader for New Tradition Homes. We've been in business since 1988 building mainly in Vancouver and ??????. We are an above code builder by choice. Today we have two thousand nine hundred and twenty-five energy star certified homes. We have one energy star builder of the year awards, sixteen years running. We are hoping to close three hundred and twenty-five homes this year. I am greatly concerned with the direction the State Building Code Council is leading the building industry with this new code update. We have a housing crisis in Washington, both in availability</p>

	<p>and, more importantly, affordability. The code cycle update tends to be a very costly venture if it's passed as proposed. For everyone thousand dollars, added to the price of a new home, it prices out two thousand one hundred and eighty-two households. Currently, only fifteen percent of Washingtonians can afford to purchase a new home. What I would like to focus on today are some real costs associated with proposed mandates. The proposal for heat pump and space water heating, which let's call it for what it really is, a de facto ban on natural gas. For a one thousand five hundred and sixty, one square foot ranch plan; our cost to upgrade to a nine-point five heat pump is three thousand two hundred and thirteen dollars, for a three thousand one hundred and thirty square, foot two-story home, our cost to upgrade to a nine-point five feet pump is five thousand three hundred and seventeen dollars. That is a cost upgrade to a very good ninety-six percent efficient natural gas furnace with a variable speed, VCM motor to a base level heat pump. Much more cost would be involved for builders that are building to code level today. An upgrade from an eighty one percent efficient natural gas tankless water heater which customers love very much, by the way, to a heat pump water heater is one thousand two hundred and eighty-five dollars, and this is not considered an upgrade in the mind of any homeowner. Eighty four percent of builders surveyed reports the upfront cost of heat pumps by the biggest hurdle in building affordable homes. Affordability of equipment is a major challenge. Manufacturers are not keeping up with the current demand. What will happen following more mandates? Last year builders were closing homes with no garage doors, no dishwasher, no electric ovens, and no heat pumps. That was without new code, creating more mandates. I'm encouraging you to accept option one for Table 406.2 and Table 406.3. Two other final thoughts I'd like to leave you with today, the electric vehicle charging and supply equipment mandate. This has no place in the State Building Energy code. State Building Code Council lacks authority to pass this in a code. This belongs in the electrical code. Lastly, the Energy rating Index Compliance pathway proposed by Washington State University Extension Energy Program for meeting code compliance. This was narrowly defeated during the TAG meetings but was unfairly handled and not given the fair evaluation it deserved. This should be re-evaluated and accepted as an alternative compliance option.</p>
Charles Chesney	<p>Please pass code upgrades to our residential energy codes. There is an urgent need to incentivize electric heat pumps, to lower construction costs, and ongoing utility costs, to create healthier homes and buildings with better indoor air quality, to decrease reliance on methane gas, a powerful carbon emitter. Electric heat pumps heat and cool in the same unit. This is good. The time is now to enable more efficient buildings. Thank you for your efforts to advance a building code that creates a healthy and sustainable future for all.</p>
Kristin Edmark	<p>I live near Battleground, Washington. I'm here today because, like so many people in Washington, I'm worried about the climate. I support the proposed updates to the residential energy code. I have two grandchildren. My daughter-in-law's family lost a home in the Oregon fires in 2020. Electricity has been shown to be better than methane or oil in terms of cost savings, health, efficiency, and emissions. But attitudes are slow to change, and there's a lot of money behind misinformation. So, it's important for the climate that we meet our states CETA goals, and those who rent should not be forced to live in buildings that are unhealthy. Please adopt the proposed update.</p>
Simon Bakke	<p>I'm a resident and renter in Bellingham. I ask that the Council adopt the proposed energy code updates, because the time to prepare for an increasingly fossil fuel-free future is today, not when we're hit with mote compounding crises. If you're a renter like I am, the housing affordability crisis is already here. Having more homes built with fossil-fuel furnaces isn't going to make that better, as there are MANY factors driving people to live in our region. Years of building without gas</p>

	<p>has clearly not prevented a housing affordability problem and it frankly silly to think that it'll fix it now. The price of gas in the US is artificially low since the fracking boom of the 2010s. We know that other countries often pay far more than we do, and gas prices are predicted to rise here too. Look at the nationwide landscape, with more funding than ever becoming available for clean electric appliances. And look at Washington's landscape, where our energy is becoming increasingly renewable. Let's plug into it, with heat pumps that are 3 to 5 times more efficient than gas heating and many other electric heat sources. Also, addressing fossil fuel use in homes is crucial for local governments to meet climate commitments, protect community health and safety, lower costs for builders and tenants, and create a green energy economy that will spur the creation of good jobs in our region.</p>
<p>Larry Andrews</p>	<p>I'm not for the mandates for heat pumps and here's why: the State Building Code Council approved unvented natural gas fireplaces inside buildings in the past as being safe in the environment, and there was a lot of studies done during that period; the affordability cost for affordable housing, with these new codes of heat pumps at close to an eight thousand dollar hit for a heat pump that has the high HSPF and all the other points required has to get so you can build a house becomes very expensive for the low income. My business is in a low-income area and so is my housing. I see neighbors every day having to deal with this. The cost study by Alex Romain, he had a study done of Western Washington, cost almost a half million dollars for this study to see what it cost to convert the University over, and when the study came back it became imperative that natural gas be used, and this isn't even in a new climate, in a cold climate. The other thing is what you're providing right now is heat pumps that use four ten A, four ten A is two thousand times more global warming potential than burnt natural gas. If you look back when our temperature started to rise, our temperature started to rise when we started using these new refrigerants because they were released, you could buy them from Costco. And now we're going to have to deal with these refrigerants for the next thirty years, after they're used. What we need to do is hold off on these heat pumps for another cycle or two, so we get the new CO2 heat pumps out, so we're only having a one or two global potential. The other thing is the increased load on the electric grid is going to raise our kilowatt rate from ten cents to nearly thirty cents. It's already happened in Texas and California. And so, the cost to run your heating and cooling is going to go through the roof. Finally, when the blackout happens, and you run out of power, and you can't run your gas furnace and people freeze. People are going to die in my area, in Spokane, because they don't have the power to charge their cars and they heat their homes.</p>
<p>Karen Howe</p>	<p>I'm a resident of Vancouver. I recently retired after working the last twelve years in energy efficiency programs in the Pacific Northwest. I'm here today to give my full support for the proposed residential energy code updates. The proposed codes wisely do not require all electric new home construction to which there would be massive opposition, but they do include two new requirements, heat pumps for space and water, heating that can significantly reduce greenhouse gas emissions. Heat pumps are the most energy-efficient alternatives to conventional air conditioners and furnaces. Homeowners with heat pumps for space heating will benefit from energy savings of forty to sixty percent and up to fifty percent savings on annual heating costs and heating and air conditioning in the same system which, as mentioned, air conditioning will become increasingly important with rising temperatures plus improved indoor air quality. Heat pump water heaters have additional benefits, they can be two to three times more energy efficient than conventional electric water heaters. If these products are so great, why do we need to require them in new home construction? The homeowners need help selecting heating and cooling systems. If these decisions</p>

	<p>are left to home builders, many will continue to install lower costs less than efficient conventional systems, and the best time to install heat funds is when building a new home. Most homeowners will stick with a system installed in their new house for at least ten to twenty years. My electric furnace is still going strong after forty years. So, I'm excited by the potential for greenhouse gas reductions from the proposed energy codes.</p>
<p>Andi Hochleutner, Central Washington Home Builders Association</p>	<p>I'm the Government Affairs Director for this organization which has been a leading nonprofit of trade of residential construction throughout Central Washington since 1955. I'm here to address the Council today on behalf of our six hundred and fifty members working across six counties in Central Washington. Many of these revised provisions will not help residents and growing families reach home ownership. Instead, these changes challenge the American dream of home ownership with unnecessary and overly priced practices that add to builders' challenges to increase the housing inventory across Washington. To ensure families can access homes without a substantial cost burden, we urge you to reconsider these policies changes and listen to builders who are present, but also to those who are not able to attend today, because they are busy dealing with the current demand of housing, which is beyond a critical point. They are working every day within this strained industry. Consider identifying procedural flaws and unnecessary modifications which hinder the process of building every day, lengthening building timelines, and adding to holding costs, all factors driving up home prices. Additionally, I'd like to reiterate the points made by my colleague Andrea Smith regarding mandating heat pumps. There are other concerns that do not include cost, such as the noise ordinances that make placing these units more difficult on smaller lots and in town home developments. Supply is also a concern. Two energy emergency rules have been adopted by the SBCC related to supply issues, and it is only going to get worse with California managing heat pumps refrigerant standards changing in 2023, and the IRA providing incentives for the country to these systems. Because of these various variables at play in the market, our members would prefer to have the SBCC adopt Option 2 of the R406 Table that still allows for other HVAC systems besides heat pumps. Our members want to build safe, healthy homes that people can afford. This code works against that and restricting what can be installed to address advocates arguments in support of these proposals. That may be true; but if you can't afford a housing unit that utilizes a heat pump, it doesn't matter. These proposals will have drastic consequences. As the members of a progressive industry, we encourage research and new developments. However, the volume of recommendations within this code makes affordable living and unattainable reality for thousands of families across the State. Please do not pass the proposed changes and reconsider revising the codes so homeowners can retain affordable housing.</p>
<p>Ruth Sawyer</p>	<p>I'm urging you to amend the State Building code to require heat pumps for space and water heating in new residential buildings, and to require the stricter ventilation requirements for gas stoves. These codes are a clear way to act on commitments and transition away from fossil fuels. And over the years we've learned how damaging gases from extraction to leakage all the way through transport and burning. The science is clear. We know what we need to do, and this is a clear step to it.</p>
<p>Brian Ricker, Schweitzer Engineering Laboratories (SEL)</p>	<p>The SEL is proudly founded and headquartered in Pullman, Washington. We employ over six thousand people worldwide, and two thousand eight hundred of those employees work across Washington. SEL specializes in creating digital products and systems that protect, control, and automate power systems around the world. We work to make electric power safer, more reliable, and more economical. Our founder, Dr. Edmund Schweitzer, started SEL in his basement with the idea that he could revolutionize an industry with new technology and he</p>



	<p>did just that. SEL is a company of inventors and innovators. And so, we can tell you with confidence that the best way to support innovation towards cleaner electric power and cleaner buildings is not to mandate a single solution, but to keep the door open with a regulatory framework that supports new ideas. These proposed energy codes are a step in the wrong direction. Our industry moves energy at the speed of light, so that customers across Washington can trust that the lights will turn on every time they flip switch. As a company of engineers, we understand that if supply does not meet demand on the power grid, the lights will go out. These proposed energy code changes will push more demand onto the grid, and we need to ensure that the grid is ready, that our citizens and businesses are not unnecessarily harmed in the process of pursuing electrification. We respectfully ask that you pause the effort until we clearly understand the impact that we'll have on rate pairs across the State. As an employer trying to attract the best and brightest to live and work in Washington. We also want to ensure that our employees can afford housing in our communities. We fear that these proposed code changes will have a large impact on the already high cost of housing in Washington. Further driving up the cost of new homes, we should not be forcing our citizens to pay more money to have fewer choices in their homes. Again, we kindly ask you to please pause these actions on the energy codes.</p>
<p>Chris Covert-Bowlds, PSR</p>	<p>I'm a family doctor in Seattle and a member of Washington Physicians for Social Responsibility. I urge you to adopt the proposed energy code updates because moving away from methane gas in our buildings is really important for addressing the health impacts of gas and fossil fuels. As you know, homes and buildings are the largest, fastest growing source of carbon and climate pollution, and we know especially people with chronic, obstructive pulmonary disease, otherwise known as emphysema and asthma are much more susceptible to lung damage. My mother-in-law just died of COPD, and you know we don't have any gas heat or any facilities in our home there. But how helping other people to shift to heat pumps, will reduce the gas effects on their lungs will be a really big, important health benefit for the State. So, I just encourage you to adopt this, and protect the health of people of Washington.</p>
<p>Jennifer Thomas; Spokane Home Builders Association</p>	<p>I'm the Public Relations and Government Affairs Director for the Spokane Home Builders Association. We represent eight hundred members throughout Eastern Washington. I'm also a single mom raising four daughters. I mention this, my most important role, simply because several of my fellow citizens and parents have spoken to their hopes and aspirations for our children. I echo those sentiments. I, too, want my girls to grow up into their adult lives with the promise of a sustainable planet, a thriving planet. And I most certainly do not want to do anything that would jeopardize our health. However, I don't want to be in such a rush to do something at this juncture in time that we make decisions that ultimately exacerbate our current energy and pollution problems. I am in the process of collecting written testimony from our members, and I thank you in advance for your diligence and commitment to review perspectives from experts in the homebuilding industry. As you consider proposals and public input, I request that you pay special attention to our statewide housing crisis, which you've heard some details about already, and I'm sure you're familiar with. Housing, too, is a health issue. Many of the proposals before you, including mandatory heat, pumps, price more people out of housing. Right now, in Eastern Washington, eight out of ten families cannot afford to purchase a home. Even worse less than eight percent of the families in the area can qualify for a home loan. Currently, we cannot make housing more attainable while making it more expensive. Because home ownership is out of reach for most of the workforce in the Spokane area, demand for rental units is driving rent costs. Sadly, the result is that we do not have enough housing for our community, especially our</p>

	<p>workforce, and we are driving them literally to move out of the area which simply boils down to carbon emissions from transportation. The topic of analyzing the economic impact has been debated. However, I am not aware that you have fulfilled your obligation yet to contract with an independent economic analysis, firm to do a cost-benefit analysis. Proceeding without such research and data robs you and the public from the ability to fully analyze the true costs that are inevitably passed on to renters and homeowners. I am requesting that you prioritize this baseline economic analysis as laid out in RCW 19.27.074, and that you do not implement more restrictions that cause housing to become more expensive and therefore less attainable.</p>
<p>Bill Sampson</p>	<p>I am a resident in Washington State. I urge you to adopt the proposed code changes regarding the heat pumps and water heaters. I think these proposals to electrifying are really necessary in order to work towards meeting the carbon reduction targets that are happening at the local and state levels, and I think it's important to remember that these emission targets for the carbon reduction, you know, science is saying, and we can observe through global warming and wildfires that these carbon rejections are basically the minimum required to ensure a breathable, livable, healthy future. I think that's the most important thing to remember. There are improvements needed to the grid, but I think those really need to happen, regardless of it's from gas or electric. Our grid needs improvements in reliability. I think with the global warming, we're seeing like really bad wildfires, and it affects the whole state. It just kind of depends on which way the wind is blowing that day, and we didn't use to have as bad air quality. I urge you to help electrify the grid.</p>
<p>Dennis Davis, WACCA</p>	<p>I am an HVAC Contractor in Walla Walla. I am representing those who are hoping to buy a home in the State of Washington. I'm also a member of the Washington Air Conditioning Contractors Association and represent them. I'm an engineer by training and have been an HVAC professional for 45 years in the new residential home business. Our company has sold hundreds, if not a thousand heat pumps in the 1970's and 1980's. I like heat pumps. I've been a promoter of heat pumps over the years. The new energy code is a continuation in the ideals of saving energy, and all the ideas that are proposed for HVAC and this update are good ideas for idealists. I would defend, though, that there is more to life and reality than idealism. I am concerned that each of the dozens of HVAC energy updates which increase prices and other updates, all adding up to tens of thousands of dollars, per home, that these put more and more buyers out of the market of a new home. Plus we are entering a significant increase in mortgage interest rates which by itself will make thousands of Washington potential home buyers, take them out of the market. This will increase the value of older homes also, because the supply of homes is not increasing enough. Bottom line, a big burden on both availability and affordability. I would like to appeal that there needs to be some delay in the heat pump mandate. There is no mention in this code about the HSPF-2, which is, I think an example of the left hand not knowing what the right hand is doing in the Federal government. The HSPF-211 or credit opportunity is going to be very, very hard to reach, especially with larger heat pumps and manufacturers don't even know, yet, if whether they can reach the eleven HSPF code without huge air handlers and lots of space usage. I have some more ideas, but I will turn them in as written testimony.</p>
<p>Simon Vickery</p>	<p>I would like to let you know that I am a public policy advocate. I research and suggest public policy proposals professionally, and I would like to say that all of these proposed recommendations for the building codes are good public policy. From an environmental point of view, we are improving the air quality and water quality by no longer burning gas in our homes. From a public health point of view, we are improving the air quality inside all of our homes by no longer having gas in our homes. I'd just like to briefly address some of the other arguments that</p>

	<p>have been made today. A lot of people are talking about housing affordability and the reliability of the electricity grid, and those are valid concerns and important concerns. I would point out that those are not areas of expertise for the Building Council. Those are areas to be addressed by the Utility and Transportation Commission and the utilities themselves. Local municipalities and the State trying to address the housing affordability crises, state-wide within each city. And none of those advocates who are raising those issues are saying that we shouldn't do this for our homes. We shouldn't do this for our buildings. They're saying we shouldn't do this for other reasons. I would urge the Building Code Council to think about their role here in building the best buildings we can, and whether or not this is good policy for our buildings, our health, our environment. I would say that it is, and then it's on the responsibility of other organizations to address the other issues.</p>
Kenneth Zirinsky	<p>I am a retired physician. I would like to suggest that the Council adopt the proposed energy code updates. The proposed energy code updates and the elimination of the use of natural gas for space heating and for water heating in buildings would substantially improve the health of the citizens of Washington. As previously mentioned, both outdoor and indoor air pollution from combustion of fossil fuel for heating in buildings has been shown to cause severe health problems such as cardiovascular disease, respiratory disease, stroke, asthma, autism, and premature mortality. In addition, Washington State Law (RCW 19.27A.160) requires that the state achieve a seventy percent reduction in annual net energy consumption by 2031. The proposed energy code updates will likely be necessary to accomplish this goal, since electric heat pump space and water heating is at least two to four times more efficient than natural gas space and water heating, and the same heat pumps will also provide cooling in the summer. These electric heat pumps will also substantially reduce Washington's production of greenhouse gas emissions, since the state's electric grid is already 80 percent decarbonized due to Washington's wealth of carbon-free hydropower. In conclusion, the proposed energy code updates that promote the use of efficient heat pump space and water heating will improve the health of the citizens of Washington state. They will reduce the state's annual net energy consumption when compared to natural gas, and they will reduce Washington's production of greenhouse gases. I hope the Members of the State Building Code Council will adopt the proposed energy code updates.</p>
Jeanette McKague, Washington Realtors	<p>I am representing thousands of residential and commercial real estate professionals, their clients, and those affiliated with the real estate industry. Our organization is committed to principles of sustainability and energy conservation, and we work at our communities to create economically prosperous and environmentally sustainable communities. That said, there are measures and amendments within the proposed 2021 Residential Energy Code that we just cannot support. So, the first one is the definition of residential building. We are asking the Council to disapprove the revision of the definition of residential building. We do not see the value of changing the definition at this time. I believe it needs more consideration, and that was moving some of the R2 category of buildings into the Commercial Energy code. I think there needs to be more discussion and more evaluation of that, because these buildings are part of the missing middle housing choices that we are fighting to get into our communities. In addition, we're very concerned about the impact on existing buildings when they need to be rehabbed, and the impact that the cost of commercial code requirements may have on getting the upgrades done, or the impact on raising grants for tenants, and then also eliminating housing a portable housing choices in communities. The second thing we're opposed to are the heat pumps. What I will say is, we agree with the comments that have been made by the building community. We are definitely wanting to see those amendments put aside for a</p>

	<p>variety of reasons. One is supply chain, the other is the electrical grid, which is very important. We kind of have the cart before the horse, and we also, in looking at going to net zero, there was a bill to look at that at house, Bill 1084 that did not make it through the Legislature, and part of that was to really take a look at what the barriers would be, and the impacts on housing types, and how hard or how easy would it be to make this change.</p>
<p>Scott Peterson, Northwest Gas Association</p>	<p>I'm from Richmond, Washington. Regarding the Options Table, I urge you to send the Options Table back to the TAG for reevaluation for a lot of reasons. Starting with, it's a de facto ban on natural gas, especially with the heat pump proposals in new home construction, residential construction which moves the SBCC beyond building codes into setting energy policy. You're making fuel choices. That's not building code, that's energy policy. By the way, energy policy affirmatively rejected by the Legislature, the last two sessions of the elected legislature. I agree with the previous speaker that you don't, have the expertise for this these sort of policies. Starting with, you have not considered supply chain issues, labor issues which you had excellent testimony regarding, none of that and it was addressed by BIAW, but it was ignored. So, in your in your process, you're ignoring the issues you need to consider. You're ignoring supply chain issues, resource adequacy issues. There was no study on, Is there enough electricity? Frankly, if you talk to the experts, we are on the brink now, and just this incremental change in demand will change puts us at risk. You have not considered enforcement issues. I've talked to many building code officials who are not enforcing the 2018 Code because they don't like it, it's too complicated. You're not getting your efficiency targets, now, because of simply not being enforced. You have not conducted your legally required independent cost-benefit analysis. You have not conducted your legally required small business impact analysis. And you have your own bylaws that require each TAG to submit a comprehensive analysis to the Economic Impact Work Group. And so, by the way, those last three issues are because they're in the RCW and your bylaws are part of your fiduciary responsibility, not the staffs, the Council's fiduciary responsibility and you're not meeting that responsibility by not doing the necessary research. By the way, research you need to make an informed decision on these super impactful energy policy decisions.</p>
<p>Chris Roberts, Shoreline City Council</p>	<p>Last month the Council declared a climate emergency and directed the implementation of strategies necessary to reach our science based mission reduction targets and to protect Shoreline's community from the impacts of climate change. The resolution we adopted called on us, called on staff and others to swiftly and equitably replace carbon-intensive fossil fuel-based, keying sources and appliances with efficient energy-saving systems powered by clean renewable energy increasing efficiency of new and existing buildings in increasing access to renewable energy. Shoreline was one of the first cities to adopt an updated commercial code, but we don't have that option to strengthen the residential energy code in our city due to preemption by State law. So, we're depend on the State Building Code Council to meet our goals and reduce to reduce climate emissions.</p>
<p>Dylan Plummer, Sierra Club</p>	<p>I'm the Senior Campaign Representative for the Sierra Club working on building electrification in Oregon and Washington. The Sierra Club is a national environmental, nonprofit. In Washington State, alone, we have thirty-two thousand members and well over one hundred thousand supporters working for environmental and climate justice. On behalf of this membership across the State, I urge you to adopt the proposed energy code updates, because moving away from methane gas in our buildings is critical for addressing the climate crisis, reducing inequality, and protecting public health and safety in Washington. As you've heard from the dozens of building experts, doctors, engineers, and the environmental, racial, and economic justice advocates that have already testified</p>

	<p>before me in support of these changes, this code will have an array of benefits for our communities. Electrification and the transition off of fossil fuels in all aspects of our lives is not a question of if but when. And while we currently have two energy infrastructure systems, gas and electric, only one of them is compatible with the commits that our State and the Federal Government has made to ensure a livable climate for ourselves and future generations. In light of this it is clear that every dollar that we invest in expanding frack gas infrastructure is dollar that could be spent instead to increase the capacity and resilience of our electrical grid and expand renewable energy generation. It's important to note that, contrary to what the frack gas industry would have us believe, requiring new construction heat pumps, will not dramatically increase energy loads immediately, but rather will slowly increase energy loads over decades and generations. Utilities are currently required to do long term planning for load growth and this extended timeline will allow ample opportunity to expand energy generation and greater resilience as new homes and buildings are built all electric and existing buildings are retrofitted to run on clean electricity in the coming decades. This code change will have economic benefits to home buyers as well. Cost-benefit analysis proposals found that all electric homes cost less to build and mix fuel homes in both Seattle and Spokane. The proposed code updates ensure that as we continue to construct new homes, we're doing so in a manner that's equitable and sustainable and in line with the climate commitments paid by Governor Inslee in our Legislature. Today as one of the most severe hurricanes ever reported leaves a trail of destruction across Florida and the West continues to experience unprecedented drought and wildfire. It's clear that the planning crisis is here right now. We do not have three more years to wait. We must act now to transition off fossil fuels. Please take this opportunity to move forward common-sense policies to reduce emissions and build climate resilience while monitoring that Washington communities lead the way for the just transition of clean and renewable electricity.</p>
Ivan Velasquez	<p>I'm a sales representative of Fosseen's Home &amp; Hearth, a local HVAC store that sells fireplaces and things like that of that nature, gas, wood, and pellet. I have sold countless units over the years to many different people who own a split heeds furnace things like that electric furnaces. They're one of my biggest clients, because I do get a lot of customers from them in our area, I live in Yakima, we get cold. We get really cold, so they are one of my biggest customer base. I have been, over the years, notice my increase in sales just from that portion, not new customers, new buildings, new housing, but those over the years people will have older units. They do not heat, they will give out, they lose efficiency. They are really good for a short while, but they just don't hold up. Gas, wood, or pellet of those nature heat better than anything else,</p>
Tim Lovelass; President, Central Washington Homebuilders	<p>Our biggest issue that we have is that we cannot continue to go down the path that we are going on now with adding more regulation and expecting to have affordability in our housing. We're already outran that pace a long time ago, in the fact where we're at, we're adding costs to these houses that can't be recouped at any price point. And as we add those costs to these houses. It doesn't matter if you're low-end housing or high-end housing at a certain point, it doesn't matter how much money we keep adding at a certain point they can't take that money out. And so, as we're trying to make these more efficient, but we're also pushing people out of the marketplace in the affordability of housing. And in the last code change that we had, I mean, we basically added in almost twenty-five thousand dollars to the average house, and we just can't keep doing that at the pace that we've been doing. We're going to keep pushing people out of the market, and it's just going to situate the problem of our affordable housing. The other part is the elimination of natural gas is crucial. We don't have the infrastructure to handle the amount of electricity load that we're already putting</p>

	<p>onto the market, and I don't see that keeping pace, it's just going to continue to get worse, and it's something that needs to be looked at as well. The other part of the electric vehicle costs of adding and providing that in every house, not everybody is going to be able to afford electric vehicles. And how do we differentiate that from other housing? So, it actually puts a heavier burden on our lower-income housing people by having to add that to their homes when they're not going to be able to afford the electric vehicle in the first place. So that's another issue that is a really tough one. Water heating is another issue, making everything go to a heat pump, electric water heat, pumps, those are not as efficient as what we can do with gas.</p>
Paul Jouannet	<p>I urge you to adopt the proposed energy codes. I was an solar installer in King County but was formerly a line cook for many years. I've had a lot of time and experience with gas cooking indoors and I can personally attest it is a disgusting environment. Gas cooking is not as clean as a lot of people still misperceive. I was lucky enough to leave that unhealthy environment, and I've worked in the solar industry for three years now where I've further learned about the detrimental effects of natural gas. A lot of the facts have been presented here today and the validity of electrical or for gas is becoming more undeniable every day for more than just one facet. Human health, environmental health and costs relating to efficiency are just a few of the leading reasons. I've heard a lot of concerns today about things not being ready for this change, but I would assert, though, that we are past the time of waiting, and we must take action now, even if they seem out of sequence. The gas and fossil fuel industries are notorious for fighting and clawing to hold on to their position in an antiquated practice. They are saying the grid isn't ready or people will die without access to gas as a backup. The grid is also controlled by private industry with their own interests at hand when it boils down to it. As someone in the solar industry, I can tell you that we are installing systems at a breakneck pace in Washington, adding to the energy, independence for individuals off the grid. The grid will compensate when the time comes, but I assure you that this industry will not change anything unless they are pressured. And regarding deaths during the winter during outages, well, unfortunately, there are exponentially more deaths related to the process of natural gas, fracking, et cetera.</p>
Adjourn	<p>The Hearing was adjourned at 2:10 p.m.</p>