

STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

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STATE BUILDING CODE COUNCIL PUBLIC HEARING RECORD

Hearing Date and Time: Tuesday, November 22, 2023, 10:00 a.m.

Council Members in Attendance: Damon Doyle, Council Vice Chair, Micah Chappell, Tom Handy, Ben Omura

<u>Staff in Attendance</u>: Stoyan Bumbalov, Managing Director; Krista Braaksma; Dustin Curb; Rozanna Ghanie

Others in Attendance: chris Arnold, Tim Attebery, Kim Barker, Martha Baskin, Steve Belzak, Abbie Bullen, Tyler Burbidge, Ian Casey, Ted Clifton, Brett Conway, Christopher Covert-Bowlds, Michael Currier, Brian DeHart, Kevin Duell, John Erwin, Mike Fowler, Jeff Giffin, Patrick Hanks, Angela Haupt, Gary Heikkinen, Nancy Henderson, Luke Howard, Harshad Inamdar, Christina Janis, Ty Jennings, Gregory Johnson, Kevin Kaul, Jonny Kocher, Rachel Koller, Donald Leske, Carolyn Logue, Rick Marshall, Ted McCammant, Jeanette McKague, Daniel Miller, Samantha Morrow, James Moschella, Sarah Neibert, Erik Olnon, Dylan Plummer, Claire Richards, Sarah Robinson, Ian Robinson, Jeff Romans, Tod Sakai, Bill Sampson, Celina Sanchez, Jonathan Sargeant, Ruth Sawyer, Shaun Scott, Jessie Simmons, Deepa Sivarajan, Allison Skidd, Andrea Smith, Michael Snook, Tammie Sueirro, Joe Szwaja, Joey Tedder, Kelly Thomas, Eric Vander Mey, Seth Vidana, Richard Voget, Nick Waggood, Dan Welch, David Werner, Angela White, Tom Young

•	WSR 23-21-105: WAC 51-11R; Amendment of the 2021 Washington State Energy Code, Residential Provisions WSR 23-21-106: WAC 51-11C, amendment of the 2021 Washington State Energy Code, Commercial
From:	Testimony
	Thank you. Good morning, chair, counselors. And staff for the record my name is Andrea Smith, and I'm here today on behalf of the Building Industry Association of Washington. We are a trade association of more than 8,000 members representing all segments of the construction industry. We are here today to voice our opposition to the proposed amendments to the residential energy Code. While we understand and support the desire to lower emissions in the built environment. We are in the midst of a housing, affordable housing emergency that threatens the

	quality of life for my generation and these offer up. What is completely
	quality of life for my generation and those after us. What is completely
	baffling to me is that the emissions problem is not new homes. It's the
	existing building stock we can afford to wait to adopt the new energy code,
	if for no other reason than we are already surpassing our efficiency
	targets. You'll recall the entire reason behind reworking the code was to
	ensure compliance with EPCA, not partial compliance, but full compliance.
	And even with the changes, the code is still not compliant under the
	building code exemptions listed within EPCA to illustrate condition D has
	not been met. The simulated performance pathway uses a standard
	reference design based on HVAC products that exceed Federal efficiency
	standards. This is why builders rarely, if ever, uses pathway. Therefore,
	condition B has also not been met. The code effectively requires use of
	the prescriptive pathway due to the absence of an adequate performance
	pathway, and therefore products exceeding federal efficiency standards
	are by default required condition C has also not been met. The code fails
	to meet the one for one equivalent energy use test because the tag
	conflates carbon emissions with energy use. They voted to keep what is
	known in the 2018 code as the fuel normalization table, and instead
	retitled it to the energy equalization table to hide its true, intent, penalizing
	fossil fuel appliances and credit achievement. This table provides extra
	credit for the same appliances that is used in high efficiency HVAC
	options in BIW. Vs. Washington State Building Code Council in 2012. It
	warned that to survive preemption credits must be given in proportion to
	energy use savings without favoring particular products or methods and
	condition if has also not been met. There is no coherent objective outlined
	by the SBCC in terms of a target for energy use, reduction for each
	building type. This fails another requirement for the exemption the chair of
	our tag incorrectly assumes. If one path complies with EPCA. The entire
	code complies. That is simply not true. All paths to compliance must be
	EPCA compliant per precedent set an A/C hri versus city of Albuquerque.
	I urge you to do the right thing and suspend implementation definitely of
	the 2021 energy code continuing to increase the cost, to build homes in
	our great state will have devastating effects on home ownership,
	attainability for decades. Thank you so much for your time. I hope you
	have a great Thanksgiving.
Joe Szwaja Sierra	I'm Joe Swire from the Sierra Club. Please pass option. One of the
, Club	commercial CR. 102. It provides legal safeguards, provides flexibility for
	builders while still meeting the vital climate goals of our code. So the rest
	of us is going to be a little song. Here we go. Let's pass. Option one.
	Yeah. Maybe bust protect our code and stop the sky below. Unload at the
	risk of sounding group at the risk of sounding. Let's stop from getting
	some your building counsel and we count on you. Say, Hello, Bob so we
	could be, well, simply fulfill your role. Please pass option one. We've got
	to get it done. We must protect doctrine and stop it. Thank you, SBCC.
	So, but that you have better leg. Thank you. Please pass option one.
Gary Heikkinen, NW	My name is Gary Hicken, and I'm an energy consultant working on behalf
Natural	of Northwest Natural. I've been a member of the energy code tag since
	2015, and since then have watched the energy code devolve into one of
	the most complicated and unbalanced energy codes in the country. The
	proposed options to strike the explicit heat, pump, mandate, and overt ban
	on the use of gas equipment for space of water heating is prudent. In

	order to avoid federal preemption issues, however, the proposed fix to add a fossil fuel compliance path with extremely onerous requirements doesn't solve the problem and results in a de facto ban of gas equipment. Anyway the proposed options to strike the explicit heat pump, mandate, and over it ban on use of natural gas imposes additional and what amounts to prohibitive credits required on top of the base credits needed for compliance. These additional credits result in a 200 to 700% increase in the number of number required to use this path. This defies all reasonableness and is at the core of this latest de facto ban on gas. Incremental first costs associated with these additional credits will also be significant, should not be ignored. The Council should demand that a first goss analysis be done before voting on either option. These additional credits were calculated by comparing gas and electric equipment efficiencies on a site energy basis using site. Energy completely ignores all the upstream losses associated with getting that energy to the building for electricity. This includes the losses resulting from generation transmission and distribution. At best, electricity is delivered to buildings at a 50%. Efficiency, and at worst, during peak consumption periods, that efficiency drops to around 30 to 35%. For comparison, natural gas is delivered to buildings at a 91% efficiency. So on a source energy basis that 250 to 300% efficient heat pump is actually running at half or a third of that 1 min. If there is to be a fossil fuel compliance path in the code. The additional credit should be calculated on source energy basis, which would result in a more accurate comparison between electric and gas options. Some on tag have stated that the issue of source versus site energy is simply a distraction. It is not a distraction, but as a fatal technical flaw, and is being used to try and justify these ill-conceived efforts to prohibit gas having failed to do so overtly. It's now trying to obscure the facts of how th
Kavin Duall NW	Thank you.
Kevin Duell, NW Natural	I'm Kevin Duell with Northwest Natural and a member of the energy code TAG. I'm concerned. The proposed 2021 residential code is too challenging to comply with builders and energy modelers have reported that for homes with gas appliances the required additional credits are too high to be achieved anecdotally. They're saying they're coming up short by about half a credit. Failing to provide a pathway where builders can install epic coverage gas appliances in practice violate EPCA. The Council is tasked with meeting legislative goals for re reducing energy use. Analysis by PNNL shows the 2021 residential code reduces energy use to 37% of the 2006 baseline that puts the code far enough ahead to meet the 2027 interim target. The residential coat could be left alone for 2 code cycles and still be on track. I'm all for progressive energy efficiency tempered by the cost to implement. It is now the time to exceed legislative goals, so dramatically driving up housing costs when it just rates are high, and housing stock is in short supply and while reducing emissions from

	the total housing stock by less than 2% over the next few decades to that cost point BAW estimates that the 2021 code will add roughly \$9,000 for all electric homes and \$30,000 for homes with gas heating. That \$30,000 cost per gas homes leads to my next concern. Does this code change address? The preemption issues with EPCA. No, the change does not. The average home in Washington is 2185 square feet. That \$30,000 is an additional cost of almost \$14 per square foot. That's profound. That's prohibitive. Pivoting to commercial code, a building using gas for space and water heating will have to follow the fossil fuel path. That path requires between 2 to 7 times as many additional credits depending on the occupancy using the cost of renewable energy credits as a proxy for the dramatically higher number of credits required for an office building. The estimated cost is on the order of \$7 per square foot. That's also profound. That's also prohibitive, and a photo will take system size to get those credits may not even fit on the roof. These extreme costs do not align with the spirit of EPCA and the 2023 Berkeley decision by the Ninth Circuit Court. This code still leaves the Council with EPCA preemption liability. Thenk your for your time
Nanov Hondorson	liability. Thank you for your time.
Nancy Henderson, ArchEcology	I am here on behalf of ArchEology and Shift 0, and I am here to urge you to adopt the amendments to the 2021 Washington State Energy Code, both the residential and commercial. Please pass option. One of the commercial CR-102, with the changes recommended by RMI in their comment letter submitted on 11/20/2023. Specifically, we want to ensure that the final code includes the amended language they are proposing for the heat pump water heating credit along with the removal of the supplemental gas heat from air source, heat pumps, and the clarification on the electric readiness for space, heating and water heating. We believe this is a better position legally because it gives contractors flexibility to choose appliances as they achieve energy efficiency. These changes maintain the intent of the code to transition away from pollution
	generating gas towards clean and affordable electricity. I appreciate all the comments about cost, but our time for incremental small changes has
	passed, and we urgently need to make some drastic changes. Thank you.
Rick Marshall	My name is Rick Marshall, and I'm a builder and developer down here in Southwest Washington. I have over 35 years of experience in residential energy efficiency. I strongly encourage the Council to adopt the energy code amendments under consideration, specifically option one for the commercial code. I also encourage you to seriously consider the amendments suggested by RMI. You know, RMI has been providing valuable energy efficiency analysis for decades, and I've long relied on their research and insights. I think it's important to remember that they got their start, not simply at trying to reduce pollution, but really trying to make us more energy secure as a nation. You know, I've always been inspired by the energy efficiency pioneers, and we've tried to do our part. One example, we built an energy efficient duplex that meets passive house airflow standards. My mother-in-law lives in the lower flat, and I just looked up her energy bills for August and September of this year. She paid \$34 and \$39, basically 10 kilowatt hours per day. These were very bad months for our PUD. And they were seeing close to a thousand dollars per megawatt hour in the wholesale markets on some days. you know, we had a limited budget and couldn't afford any fancy windows or

	appliances, and she gets by with a single head, duckless heat pump. Still, she gets great year-round comfort, some nice acoustic separation from her neighbor upstairs in the apartment complex next door, good indoor air quality. When we have wildfire smoke, and I know we've got a more durable building, you know. Essentially any weather has to penetrate exterior insulation building, wrap an air and weather barrier before ever getting to any of the actual structure. All elements are semi permeable, so water vapor can move in both directions just like the building science folks recommend and I think it works. But here's the kicker. We built this duplex back in 2009. I highlight it not to brag, but to point out just how doable increased energy efficiency really is. There are much better builders out there, and the production folks really know how to make things cost effective. The last 14 years has given us better materials and know how, better appliances in HVAC systems. It's all very doable. We need to get this code updated and get back to building. My last point being energy efficient is great for someone like my mother- in-law who gets by on a fixed income. She can't afford to spend a lot on A/C or heating but energy efficiency is not just important to limited income folks. If we don't build more energy efficient, then we could all be without A/C if we don't moderate new demand. Remember, energy efficiency
	really means energy security for all of us. Thanks again, council for taking
	public comments. Happy Thanksgiving to everyone. Thank you.
Marth Baskin, Sierra Club	I am with the Sierra Club and I'm urging the State Building Code Council to adopt these amendments to the '21 Washington State Energy Code, adding my voice to please pass option one specifically to ensure amended language for the heat pump, water heating credit, removal of supplemental gas heating from air source, heat pumps, and the clarification on the electric readiness language being made available both space and water heating reducing emissions from new buildings is crucial to protecting our climate and air quality and our health. Electric heat pumps are a double win. Not only do they reduce greenhouse gas emissions from buildings, but they provide heating alongside cooling, which is only growing more intense as our region sees more and more wildfire smoke and heat waves. Again, for reasons of public health, we must immediately transition away from gas appliances that spew methane, nitrogen oxides, and even carcinogens like benzene into the air we breathe and switch to clean technology. Please pass these amendments to protect strong codes and ensure that new buildings in Washington are as climate, friendly and cost effective as possible. Thank you so much. Very good Thanksgiving or however you appreciate all that
Doopa Siyarajan	you have. Thank you. My name is Deepe Siversian, I'm the Weshington Level Believ Menager et
Deepa Sivarajan, Climate Solutions	My name is Deepa Sivarajan. I'm the Washington Local Policy Manager at Climate Solutions. I'm here to testify in support of the amendments to the 2021 residential and commercial energy codes, and specifically in support of option one of the commercial CR-102 with the recommended changes that RMI made in their comments submitted on Monday, ensuring that the amended language for the heat pump, water heating credit, the removal of supplemental gas heating from air source heat pumps, and the clarification on the electric readiness language being available for both space and water heating appliances are included in the final code language. I've also shared a written comment that is signed by numerous

	organizations and businesses across the state in support of the amendments. Washington State's 2021 clean energy strategy found that electrification is the lowest cost pathway to achieving our statutory climate goals of reducing greenhouse gas emissions by 95% below 1990 levels by 2050, and the Washington State Legislature has previously directed the SBCC to set codes in line with these targets. Last year, Climate Solutions joined organizations and thousands of residents across Washington in supporting the heat pump amendments to the 2021 commercial and residential energy codes. To comply with these state requirements. Building off of the work of Seattle, Shoreline, Bellingham and King County, local jurisdictions which pass strong climate, friendly codes in 2021 and 2022. The current proposed amendments preserve the impact of the codes. To achieve these statutory targets while providing legal safeguards and more flexibility for builders to choose appliances as they achieve energy performance. I also want to urge the Council to pass these amendments on schedule, instead of instituting any further delay. As you heard yesterday from Olympia City Council member, Lisa Parshley, many local governments that I'm in contact with are relying on the SBCC's work to support their own climate action. For example, the City of Tacoma halted their own analysis of building decarbonization strategies for new construction in the city, because the state had already taken action expecting that the codes would be implemented earlier this year. With the codes now set to go into effect in Spring 2024, any further delay would be incredibly burdensome to local governments, not to
	mention unfair to builders and developers in the local jurisdictions who pass clean energy codes in 2021 and 2022 who need a level playing field
	and consistency across the State. Thank you.
Kelly Thomas, Spokane City Council Sustainability Sarah Robinson,	My name is Kelly Thomas. I'm the manager of Sustainability Initiatives for Spokane City Council. Spokane is a 4 season climate, with some pretty harsh winters and very hot summers. We are committed to building codes that support decarbonization, but consider these extreme temperatures, such as heat pumps designed for cold climates. Our poorest and most vulnerable neighborhoods sit in the middle of punishing Heat Islands with very little tree canopy. A more permanent solution than air conditioners and fans would be welcome. We know that buildings are still the fastest growing sources of emissions so Spokane is prioritizing the use of efficient and renewable energy that meets Washington Clean Buildings Act EUI targets. The City of Spokane relies upon the state code to move forward on our own internal strategies. These amendments maintain the intent of the strong energy code adopted last year toward clean and affordable electricity. And so we support approval without further delay. Thank you, Happy Thanksgiving. My name is Sarah Robinson, and I speak from the unseeded lands of the
Sarah Robinson, Earth Ministry	My name is Sarah Robinson, and I speak from the unseeded lands of the Oloney people. As advocacy manager for Earth Ministry, Washington Interfaith Power and Light I speak in concert with thousands of affiliated people of faith and conscience, as well as hundreds of member congregations. Our planetary fever is on the rise, and scientists leaders and civil society are calling for all hands on deck for the climate crisis. In Washington, our State already suffers with more drought, floods, glacier melt, wildfire, heat waves and other hazards that hurt our most vulnerable most acutely. To avoid the worst and restore the means for our

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	communities to both adapt and thrive reducing emissions from new buildings is crucial to protect our climate and air quality and our health. Improving buildings, both homes and businesses will further integrate climate and health goals into our region. Please adopt these amendments, especially option one for commercial which will maintain the intent of the strong energy code passed last year by the Council. Washington communities deserve their best chance to thrive and if we neglect to adapt to our changing climate, already overburdened and underserved community members will pay the price. We must face this moment courageously and do our utmost to protect our communities from harm. Your hard work and timely response matters so much to support community. Wellbeing in our built environments. Thank you very much for your time.
Dan Welch, Bundle Design Studio	My name's Dan Welch with Bundled Design Studio. Bundle is an architecture firm located in Bellingham. Our work consists of 75 residential and 25 commercial projects across the Puget Sound area. In Washington State, buildings are still the fastest growing sources of carbon emissions and efforts to accelerate a transition to a highly efficient heat pumps is crucial to prevent further climate catastrophe and to create resilient buildings with cooling benefits during increasingly hot summers. We urge the Code Council to adopt the proposed amendments to the 2021 Washington State energy code for both residential and commercial. On the residential side, for over a decade Bundle has been designing all electric low energy buildings that meet and often exceed the proposed Washington energy code updates as building industry professionals. Bundle wants to construct buildings that stand the test of time and help build a sustainable 0 emission future for Washington. Continuing to install gas, powered furnaces and water heaters, results in years of additional carbon emissions. Buildings are long-lived assets, and is much more cost effective to use best practices from the start than to retrofit later. From our decade of work Bundle has learned that heat pump technology is available now as the market ready cost effective solution that fits a wide range of projects for both new construction and renovations updates to the Washington energy code that encourage the use of heat pumps is the most cost effective solution. Moving forward on the commercial side, please pass Option One of the commercial CR-102, with the recommended changes that Rocky Mountain Institute made in their comments submitted on 11/20. Specifically, we want to ensure that their amended language for the heat pump, water heating credit, the removal of the supplemental gas heating from air source, heat pumps, and the clarification on the electric readiness language for both space and water. Heating appliances are included in the final code. Thank you. Have a good h
Jeanette McKague, Washington Realtors	I am Jeanette McKague, testifying to day on behalf of Washington Realtors. Thank you for the opportunity to provide our comments today. We recently sent a letter into the Council to reconsider the change in the scope of the residential energy code in which some multifamily buildings are moved to the commercial code. We are asking that that scope remain the same as it was in the 2018 residential energy code, and I'll give you a couple of reasons that were in our letter. The ICC did not change the scope of definitions of covered buildings within the 2021 code nor has that

	specifically says "not subject to public input" so the scope is not subject to public input. Our codes have retained the same definition throughout each code cycle until this year. So we're asking for that to go back. But the other reason that we're asking is the fact that some of the multi-family buildings under the residential energy code are moving to the commercial energy code. We see this as adding increased costs to these buildings that will provide future housing for our population. So, for example, what does that mean? The commercial code requires the use of solar and it mandates it for a building with about 15,000 square feet of conditioned space the solar requirement will add about \$30,000 to the building costs. Solar is optional in the residential energy code. The cost of this one component adds to the total cost of the commercial building, and in the end these costs are all passed on to the tenants in the form of rent it leases. These buildings are a component of the Missing Middle Housing Bill that passed last Session House Bill 1110 and they are important for addressing the State's housing crisis. We know that regulations add to a lot of costs to housing and jeopardize the ability to build a housing the state needs. We appreciate all the work that went into the development of the 2021 energy codes. But we are very concerned with the scope, change the cost, implication on housing, and the State's ability to provide the amount of and affordability of homes needed for Washington's population. Therefore, we asked the State Building Code Council to either change the scope or to please forgo the 2021 code update process and instead move forward with the 2024 updates with a renewed focus on the cost impacts of housing and on the commercial market in Washington. Thank you very much.
Jeff Giffin, Low Carbon District Energy Association of Washington	My name is Jeff Giffin, and I'm representing the Low Carbon District Energy Association of Washington. First off I want to applaud the 2021 energy code for addressing carbon emissions from building Sector Head on this is a welcome transition which will lead to better outcomes for the State of Washington and the planet. I also want to commend this new code for including for the first time low carbon district energy systems, compliance pathway which will help boost demand for resilient heat networks that utilize local waste heat sources and renewable energy sources at scale by nature, district energy systems create good paying jobs for pipe fitters and operating engineers that are typically left out in the transition and will help ensure a just transition away from fossil fuels. Don't let the perfect be the enemy of a good of the good, is a saying that I think, makes sense in this. In this case while I'm in favor of this this year's code adoption I believe there are a number of areas that could use improvement. For example, the C. 406 credits allocated to low carbon district energy systems do not fairly reflect the energy efficiency and carbon emissions savings that will be achieved specifically for buildings that connect to a low carbon district energy system for domestic hot water services. I believe this omission was an unfortunate consequence of all the changes and controversies that have occurred during this code cycle adoption. And while it'd be nice to have these issues reconciled in this code cycle, I feel that it's far more important to get this code passed now, and we can address these issues in the next code cycle. Thank you and Happy Thanksgiving.

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My name is Richard Voget, and I live in Seattle. I want to thank the members of the Seattle, the State Building Code Council for addressing the crisis of climate change by last year, passing building codes that are complementary to State law. Our Legislature passed the Climate Commitment Act, which requires a 95% reduction in emissions by 2050, and that will be achievable if we continue to expand and not reduce fossil fuel, infrastructure and install gas appliances which we last over 30 years. The amendments being considered today, maintain intent of last year's code the transition space and water heating and new buildings from fluting gas towards clean and affordable electricity by allowing builders flexibility to choose appliances instead of you have provided a legal safeguard that addresses on certain cases about Federal law. Please include the following in the final code language, the amended language for the heat pump, water heating credit, the removal of supplemental gas heating from air stores, heat pump and the clarification on electric readiness, language being available for both space and water heating advances. Thank you for
letting me beep.
I'm in Seattle, and I've been listening to some of the comments, so I'll try to saya few, I guess new and different things. I just wanna talk about like the extremenegatives about the indoor air quality of gas. I know at my house. I have an indoor air quality monitor, and I like to open the windows for 10 min a day, because, unfortunately, I still have the gas furnace for the heating and there are harmful chemicals that register on air quality monitors. If you have a gas furnace, and you know, don't open the windows. I doubt you know, I think most people who have gas appliances don't really open the windows and gas also contributes to global warming. Meaning more people need heating and cooling systems as we have more extreme weather events. And so that's even, you know, more carbon and I didn't used to need, you know, an air conditioner. But because of global warming, I had to get one because it just got to be too hot in the summer. I also want to echo some of the things other people have mentioned about the you know the cost issue. Well, I guess I'd like to add one thing, I think people haven't really talked out much is what about the cost? Increased costs of people of increased medical bills for negative impacts associated with gas. So, I urge you to pass the amendments to have a healthier, better climate. Thank you.
have a healthier, better climate. Thank you.
My name is Chris Covert-Bowlds and as a family doctor in Washington for 29 years and volunteering as a Board and Climate Health Task Force, member of the Washington Physicians for Social Responsibility. I urge you to adopt these amendments to the State energy code, residential and commercial. Please pass Option One of CR-102 with the recommended changes that RMI made in their comment from November 20th. We want to ensure that they're amended language for the heat pump, water heating credit, the removal of supplemental gas heating from air sources, heat pumps, and the clarification on the electric readiness language be available for both space and water. Heating appliances want to make sure those are included in the final code language. This will give builders flexibility to choose appliances as they achieve energy performance and still maintain the intent of the strong energy code already in place. If we delay implementing these clean codes would continue the harm from heat, trapping, methane and carbon dioxide, that gas furnaces pump into our

	air. I speak for my patient, who nearly died of blood, clots in his lungs, triggered by wildfire smoke, which is increased by climate change and warming. I speak for my young low-income patients struggling to breathe with her asthma attack triggered by dangerous indoor air pollution caused by indoor gas stove gas, burning buildings, and appliances are a danger to our health. So please pass these amendments to protect our residents. As the Lung Association says, when you can't breathe, nothing else matters. Thank you very much.
Gregory Johnson, Avista Corp	I'm a professional engineer at Avista Utilities involved with the design. The operation of the distribution system that supplies electricity homes and businesses. I also have experience designing building electrical systems. I, too, strive for a greener society with reduced emissions, which is why I work on many future thinking projects, including grid connected batteries, large solar and microgrids. I not only design, but also get a witness the achievements and the failings of various technologies, and I want to share some of that experience with you. Washington's 2021 commercial and residential energy codes proposed credit system that demands the use of heat pumps. I know that heat pumps are amazing technology, which is why their uses have been become so prevalent. However, heat pumps have a cold weather weakness, which is why building designs have long incorporated supplemental heat into building designs. Unfortunately, the 2021 Energy codes, along with some suggested amendments have attacked the use of natural gas to supplemental heat. but what you may not realize is when you completely eliminate national gas from buildings you increase carbon emissions because the electricity is not nearly as clean as you think. Roughly, 60% of a Avistas generation comes from green sources. But this average value doesn't tell the whole story. Green resources, such as Hydro and Wind Peak in the spring, often exceeding 90% green. But when temperatures dip in the winter. It's 20% green. Unfortunately, the demand for power is the greatest. At the time when electricity is dirtiest. Your heating marginal electricity use the heat buildings during these periods essentially 100% generated from either natural gas or coal. You might think that your utility is 100% hydro, because you're blessed to live in Washington. However, what you may not realize is that 100% hydro utility. There's less clean hydro to export to other utilities, forcing them to turn to natural gas or coal to make up the gap. According to WAC, the authority overseei
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	it's significantly harder. Extract heat when 0 degrees outside, then is 47. Both the capacity and the efficiency plummet with temperature a Hspf. 9.5 heat pump, which yields half an energy credit under the residential option 3.3 achieves parity at 30°F. As the temperature be lock drops below. This efficiency approaches that of electric resistive heat. Anyone there who states that they're focused on site based efficiency. They're attempting to ignore the true carbon impact in addition capacity and reliability are decreased with temperature.
Tod Sakai	I'm a design builder out of Kent, Washington. I'm asking you to delay the adoption of this. The biggest reason is we are facing inflation right now, and the Federal Reserve obviously Jerome Powell looks to the housing data. The cost of housing data. So why this costs so much more to build isn't just the heat pumps but to make sure that building envelope can hold that air tight. Now you make the whole house airtight. They ask us to create more fresh air, intake holes, so it's very counter intuitive when you make the house to be very energy efficient, but on the exterior walls we have to put resid insulation. Then you have to firming strips. Now the siding screws and nails are going to have to be 4 inches long, so the cost keeps adding, not to mention the windows. They are not fit for these thick walls. All of these things cause inflation in the building industry. The problem with inflation. The Federal Reserve is going to keep rates very high, which makes housing unaffordable. So for me to fight for this is not that for the environment, I am for the environment, I just asking you to delay so that we can look at all these methods as to how we need to make houses more affordable. Thank you.
Jessie Simmons, Olympia Master Builders	My name is Jesse Simmons. I am the Government Affairs director for the Olympia Master Builders. We are an organization that represents nearly 500 members across 5 counties associated with the building industry. That's in Thurston, Lewis Mason, Grays Harbor, and Pacific Counties. I think much of what I wanted to say has been said here, and I have submitted a letter expressing many of my technical objections to the codes. But I do want to say, you know, creating energy efficiency is a laudable goal. And our builders are doing that. This Council admits that. In an analysis released by this council, it does show that our builders are reducing and are well on the way to reducing energy use in buildings by 70% by 2031. And so our builders are achieving these goals without these codes already being implemented. I also want to add that builder members have expressed to me that they will have difficulties in adhering to these new codes that it will add to the expense, and they'll have trouble keeping costs down. And is it really the right time to add \$75,000 over the life of a mortgage to a home in the middle of an extreme housing prices where nearly 85% of the of the general public in Washington can't afford, the median cost home. Also, our local building officials have also expressed concern that they will have trouble enforcing these codes. And so you'll have a lot of noncompliance. I think the Council before they implement codes they should be asking themselves, is this going to make housing more affordable for more people? And then I also want to request that we forego the 2021 code cycle in favor of pursuing rulemaking for the 2024 code cycle and get a get this right and use common sense and make sure that we can keep costs down. Thank you.

Brian DeHart	My name is Brian, and I'm a product designer for kKCTS 9 PBS. As well as a husband and a musician. I've lived in Washington for over a decade, and I've fought for action on environmental issues throughout that period, appreciating the progress that the State has made, especially the Building Code Council leading the charge by implementing one of the most climate friendly energy codes in the nation last year. I also appreciate the foresight to propose amendments to protect these codes, ensuring new buildings in Washington are climate friendly and cost effective. My reason for being here today is to urge the building Code Council to adopt the amendments and to please pass Option One of the commercial CR-102. Time and again we found problems in how we build and live. We used to require to not require seatbelts or airbags and cars we allowed lead to be in paint and gasoline, and asbestos was prevalent in our homes and schools. However, we fought through the resistance and made changes to improve our communities in hindsight. These changes all seem so obvious. This is another one of those times, where we found gas to be releasing dangerous fumes into home, causing asthma and children and leak leaking methane into our atmosphere. A gas with a much larger greenhouse impact than even the solution is obvious. Electrifying our buildings means safer communities, a shot at reducing climate change and a better and a future of better, cheaper products, like ultra efficient heat pumps. Thanks again for your time and letting our voices be heard.
	SBCC Hearing Room: Thank you.
Ted Clifton	My name is Ted Clifton. I am a designer of 0 energy homes. In fact, that's all I've designed for the last 15 plus years. I've also built over 50, 0 energy homes in and around would be island. And I've designed 0 energy homes all the way across the United States and Canada. In fact, the 0 energy home coalition has credited to me with designing more 0 energy. Third party verified 0 Energy Homes than any other single designer in North America. I am also the NH. Representative to the ICC's new council on carbon. So I do know just a little bit about carbon. And that's what I'm going to address this code. This 2021 code is going the wrong direction on carbon and it needs to be scrapped. This is really important. Everybody has testified almost as concerned about carbon, and you don't realize you're going the wrong direction. I'm going to give you 3 very specific examples and then I ask you that you scrap this code and go for the 2024. Number one, we'll talk about the R. 60 sealing installation requirement. Alright. Let's talk about the way insulation works. The first R. 11 that we put in the walls back in the 60 s and 70 s stopped two-thirds of the energy going through that wall. Now, if we added another R. 11 to that. It would only stop two-thirds of the remaining third or 2 nights if we added another R. 11 to that, so we're 33, it would only stop 2 thirds of the 2 thirds, or, excuse me 2 thirds of the remaining third or 2 nights of the 2 thirds, or, excuse me 2 thirds of the remaining third or 2 nights in we added another R. 49 to R. 60, you're getting less than 1% return on the same amount of insulation that originally and not got you a 67% return. And yet the carbon required to produce and install that insulation is the same as the carbon in the first R. 11. So you're getting less than 1% out here versus 67. And the testing on that has shown by the national energy renewable energy labs and many other testing agencies, that the return on energy is over 200 years. Recent studies out of Canada shown that you'll never

 the cost of this carbon over the life of the building. So that's number one number 2. Let's look at the our R. 5. Foam outside of an R. 20 cavity. Nobody makes our 20. They make our 19, or they make our 21. tedclifton2: So by this prescriptive path the builder is going to have to use the and the whole reason for the R. 5. contrary to what a lot of people think is about putting the moisture, the vapor, the condensation of vapor. Put it out into that foam so that you don't have moisture condensing inside your fluffy walls when you increase the inside to R. 21 instead of R. 20, it moves the dew point farther towards the inside. So you have walls that still fail and when you apply this same math and same facts and same physics to Eastern Washington you actually need our 7.5, a phone on the outside of an wall to actually make it not fail. So this code causes walls to fail. We're going to a have another decade of the 7 S where we're building stuff that fails. We can't do that. We can't do mour builders and our homeowners and our renters to 10 years or 20 years or 30 years of failure. And that's what this code would do. It needs to be scrapped. Third, example, heat recovery ventilators. They don't work in Western Washington. Right? Thank you. Anne Anderson Hi, my name is Ann Anderson. I am a structural engineer and owner of Green Mountain structural engineering which specializes in residential projects. I'm also involved in code development on a national level. Having served on the IRC B Code Development Committee for the 2021 and 2024 code cycles. I also served on the ICC Appeals Board in 2020 the 2021 IECC. Is a flawed code, which is the reason why there were several appeals, and the Washington State amended version is flawed as well, and should not be adopted. It makes no sense to adopt a code that is fraught with problems and is going to ad unnecessary costs homes also. This code will be in place for less than 12 years, is going to take a lot of resources and effort to		
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cavity insulation. I know that when skipping the 2021 code cycle was		cavity insulation. I know that when skipping the 2021 code cycle was

	brought up this past September one council member discreet and said something like, we can't skip this cycle. We have put so much effort into this, and I agree. I truly appreciate all the work that goes into this. But that is not a good enough reason. This amended code does not comply with EPCA requirements. If it is adopted there will be legal challenges. The 2024 ICC Code has been developed through a much more stringent code development process then the 2021 IECC and is a better code. This counts council needs to make the logical choice, not the emotional choice, and realize that pushing this problematic code on our state is not the right way to go. Thank you for your time.
Carolyn Logue	I'm here today representing the Washington Air Conditioning Contractors Association and the North West Hearth Patio and Barbecue Association. First of all, we agree with a lot of the comments that are opposing the current code amendments that are before you today. I think there's a fallacy right now, and the assumption that seems to be out there, that the 2,018 codes are not continuing to move us towards the goals that we need to meet and that we need this 2120 21 code change in order to do anything at all and make any changes. I also like the fact that you've moved away from the heat pump mandate, because an appliance itself is not going to move towards more energy and carbon efficient homes. But the fossil fuel compliance path that's put in place needs to be based. In reality I was in a meeting yesterday. All of our Hvac contractors are are are saying, wait a second. These appliances don't even exist out there. And if they're not available, it really then just becomes a fallacy that it even can be an option out there and really does, I don't think makes the code ook good in terms of that. It's really out there with a goal to make sure we're doing that in the best way possible for consumers, and in the most affordable way. The other thing is, this code is extremely confusing for all of my clients. and and that confusion actually could lead to significant mistakes that over time could reduce an additional cost and less energy efficiency and the need to go back and do after market fixes in order to achieve that. So we don't need that in our code, either. Also, it decreases the ability to actually put in that needed supplemental heat in so many areas around the State where we cannot count on the power grid, the electrical grid to be working all of the time. And we need to make sure that supplemental heat is there. The first thing, and I will emphasize this again. And I think I've used the people have used the term energy security. The first thing that happens in any crisis is, we are told, to shelter at home. Tho
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	Codes. That in for our Hvac contractors and others when you're looking at that in terms of energy standards, appliances that are available, and all that also. Not only does it make us be able to have a more efficient discussion. but it also moves us to a point where we are able to better match what is happening nationally in terms of standards for appliance and the availability of those appliances out there, so that we're not rushing forward with something that we're putting things in that are expensive. When we really could be working on something that is actually being worked on on a national basis and can make us more able to find the things that we need to create the energy efficiency. Washington is doing a great job right now, and we can continue to do that with the 2,018 code. Skip this one and move forward with 2,024.
Jonny Kocher	I'm a manager at Rmi, a nonprofit nonpartisan organization that seeks ending reliance on fossil fuels and to transform global energy system to a secure clean and prosperous future for all. First, I would like to thank all of the hard work of the Sbcc staff, stoian, Krista, and all the other staff have been incredibly professional during this marathon of a code cycle. It's gone on for almost 3 years. I hope you're able to get some much needed rest after this month. Please pass option. One of the commercial cr. 102, with the recommended changes submitted by Rmi on Monday. Specifically, we want to ensure that the heat, pump water. Heating credit language is updated as the current language is ambiguous and confusing, not meeting the original intent, which is to provide a pathway for a 100% primary load for service, hot water heating additionally. Please remove supplemental gas heating for air source heat pumps. This option. This should not have included an option one, as it did not appear in any of the previous tag or Mbe. Meetings. I went through and watched those meetings, and it should be included in option. 2, but not an option, one. It also does not reduce up to risk. Also, there should be a clarification on the electric readiness language being available for both space and water heating option one. It's a little ambiguous. It just says the word appliance, instead of actually specifically stating that both space and water heating devices would be able to receive electric readiness requirements if the fossil fuel pathway were chosen. I want to address some incorrect facts stated by Andrea Smith. First, the normalization table presented today is not based on carbon emissions, as it was in 2,018. It was, in fact, modified to be based off site, energy usage, and it's explicitly modified to be 1 one equivalent. There's already a lawsuit in Washington 10 years ago on the credit table, and the court already ruled, that as long as the credits are based on one to one energy equivalent, and as long as one pathway allows
Claire Richards	My name is Dr. Claire Richards, and I'm speaking on behalf of Washington physicians for social responsibility. I'm a nurse scientist, and I urge you to adopt the option. One of Cr, 102 amendments to the 2021

	Washington State energy, code, residential and commercial. Some may claim that these amendments reduce energy choice by making it difficult to build a gas home. but when I moved to Spokane, our family could not find an all electric home. We eventually found a home with a high efficiency gas furnace. The exhaust was directed over the back steps, and you could smell the gas. It took multiple visits to figure out that the gas was actually leaking, and we were told that this was potentially explosive. Gas leaks are extremely common, and pose threats to public health as well as contributing contribute to climate change. Despite our enthusiasm, we found that it was cost prohibitive for us to electrify the home. It makes a lot more sense to build an energy efficient home with a heat pump. From the beginning. Climate change will result in more extreme heat than extreme cold and heat pumps will save lives. I also wanna point to the wild fires this last summer affecting Eastern Washington gas had to be turned off due to the wildfire. Gas outages take much longer to turn back on than electric ones. Your decisions now can have an important positive effect impact impacts that extend beyond Washington State. We cannot delay anymore.
Patrick Hanks	I'm with the Washington Policy center. My public testimony is to notify you
	of my concern that the small business economic impact statements included in the for the commercial and residential energy code do not fully comply with the Regulatory Fairness Act. I made a list of potentially missing or incomplete elements as required in the Revised Code of Washington. Title 7, chapter 85, section 40. Please see my full written
	testimony for more information, for brevity. I will just mention subsection, one a. Through C, which requires a cost. Comparison between affected small and large businesses, using at least one of the following bases cost per employee cost per hour of labor, or cost per \$100 of sales. I ask the
	Council to bring this issue up with your staff and legal experts to confirm compliance with the regulatory Fairness act and take necessary action.
Dylan Plummer	I'm the senior field organizer for the Sierra Club, working on building electrification in Oregon, Washington. The Sierra Club is a national environmental nonprofit organization, and in Washington State alone we have over 32,000 members and well, over 100,000 supporters working for environmental and climate justice. In my role at the Sierra Club. I haven't been engaged with the State Building Code Council for the past 2 years, discussing critical changes to ensure that new construction is being built with the most climate, friendly and efficient technologies. And I'm you know, very glad to be here today to continue this advocacy, and on behalf of our membership across the State. I urge you to pass the amendments in front of you, to protect the strong codes and ensure that new buildings in Washington are as climate, friendly and cost effective as possible. Please take this opportunity to protect these common sense codes, to reduce emissions, build climate resilience, and ensure that Washington continues. So we'd lead the way towards adjust transition to clean and renewable electricity. Thank you so much for your consideration and for your work on behalf of the State, and for letting me get my testimony in
Chaup Caatt	here.
Shaun Scott	I am a mechanical engineer working at Duma. Romans Incorporated a consulting mechanical engineering office located in Spokane Valley. I

	would like to compare the proposed elimination of natural gas as a fuel source in this State to a precedent set by the Washington clean cars 2030 bill from the Seattle Times article titled Washington sets 2030 goal to phase out gas cars, dated April first, 2022. No, this is not an April Fool's joke. Quote the goal of selling exclusively electric vehicles in 8 years. Is just that a goal? I would also like it. To be clear, I have no issue with motivation behind decarbonization. In fact, I own 2 electric vehicles, and have personally installed 33 solar panels on my roof to charge them. However, it is clear the 2021 code is not ready to be effectively enacted. It is, in my opinion, quite shortsighted and dismissive of the well-being of the State's residents to eliminate natural gas as a heating fuel source on the eastern side of the State the temperature can get much lower than other parts as an alternative to gas heating electric heat pumps are one of the more viable options. However, the heating capacity of this equipment berates significantly as the temperatures drop below freezing and approach 0 degrees or lower. This loss in capacity creates a need for auxiliary electric resistance. Heat. I don't think it was accompanied. I don't think it would come as a surprise to many that this backup electric heat load is greater than that of the heat pump alone. For example, a typical 5 ton gas heating unit requires a 45 amp. Breaker at 208 volts. 3. Phase and equivalent. 5 ton heat pump requires a 50 amp. Breaker. However, when you add a backup electric heater that breaker size more than doubles to 110 amps. This in turn increases the size of the overall electrical service required for a new building. I know electrical engineers and utility providers throughout the State would agree that the increased electrical service required, it will frequently be cut as budgets are, and will likely continue to be very tight. I am concerned this will force Washington residents to freeze in their own homes and workplaces. Shaun Scott:
Angela White	I'm just on here today to talk about the energy code process. And I think at this point this code is too complicated. Housing has gotten massively expensive. We have people out here that are really struggling. And I think that we just need to skip this code cycle and move on and be able to do something better. Because I think at this point we really just need to put people on our communities first.
Tyler Burbidge	I'm a project manager for Rj development and trusted wood construction here, based out of Olympia. we strive to develop and build residential housing and many types throughout Western Washington. We work with

contractors, suppliers, and permitting jurisdictions. including building officials on a daily basis, and a significant portion of our time is dedicated to ensuring regulatory compliance, while providing a right price product for our local residential markets. I'm just on here. And and I've I've drafted an email as well that I'll send to express my concern with the implementation of the 2021 building code, including the Revised Energy Code and Louis. or, while Wildn, urban Interface, I am in support of foregoing implementation of the 2021 building code and directing efforts instead to the development and preparation of the 2024 building code. I have a big issue with the the process. And I guess what actually happened in the code development of 2021 code as an active member of the Opium Master Builders, Government Affairs Committee and the participant in an Ana to be training on the 2021 code. I've had the opportunity to just get a peek behind the curtain of the development of the 2021 code. And, I'm just. I don't believe I'm alone in observing that the haphazard assembly of the 2021 building code has resulted in a finished document that will result in a crippling and building slowdowns, and contribute significantly to our housing affordability crisis. I think that Sbs excuse me. The the building Code Council members and the tag groups should actively be finding comprehensive solutions to issues that are most pressing in our communities. An example of this is that the 2021 code, as I'm sure you're aware, over penalizes or disincentivizes the use of backup or secondary heat sources, including natural gas and many regions in our State backup keep becomes essential. I think we need to work together to find reasonable solutions to these issues, couple of more things here. Just briefly, I think that there's an issue of approval and confirmation of these changes. I've been made aware of one or more instances in which changes have been made since the acceptance of the code that if not set through a full legislative session. We just like to see that that process is adhere to, as that's a legally mandated process, I believe and then I just wanted to raise a another concern. Here is that legislation was passed in this last term that aims to hold jurisdictions accountable on review times and penalizes them. The jurisdictions for exceeding codified thresholds on time for review. where they'll have to essentially reimburse applicants for time exceeding the codified limit. I believe that representatives say representatives concerned with housing affordability. They even sit on your council. likely supported or sponsored this legislation, and that the implementation of the 2,021 building code will not only be early burden, some on the private side of the building industry as a whole, but could also cripple reviewing agencies, especially those that rely heavily on permit fees for revenue generation. Building review. Timelines are excessive at this point in multiple jurisdictions throughout at least Western Washington that I'm aware of. adding to that the confusion and process of implementing the 21 code in its current state. We'll only exacerbate that problem. No one that I work with his voice confidence in implementing the 21 codes due to issues that have been repeatedly presented to the Council. I urge you to please, hear and listen to those public employees that work with the codes daily, including those associated with Wapo and those that that are active in their Nh roles. I would just ask you, please consider the potential impacts on Washington home buyers as well, we as builders need to make a profit to stay in business. We're not money

Sarah Neibert	hungry. We have local people here to our area that we have mouths to feed as well. And we just urge the the Council to consider the impacts on Washington. Home wires first and foremost, that those costs will likely be passed on to them. As this needs to move forward, so please forego 21, the 2021 building code implementation and instead work toward the best possible 2024 code that comprehensively addresses the issues our State is facing.
	We do. Camas Vancouver center the whole area. I am testifying today in a strong opposition of the proposed amendments for the energy code. There are simply too many credits needed to for compliance which will increase the cost to build and raise home prices I would urge this Council to skip the 2,021 Energy code remain on the 2,018 edition currently in effect and start working on an adoption of the 2,024 iec minimizing state amendments. The reason why I strongly oppose this is is that I don't believe our power grid will support getting rid of natural gas like this. Energy code is trying to do and to get rid of another heating option is giving the electric companies and monopoly on the market that will affect our electricity cost. I don't wanna end up like California, where we're paying so much right now. It's already getting higher and higher cost of living and everything else. I also would like to strongly say that before we even do any of this. We need to teach the inspectors what they're looking for. Why, we're handing them certificates. If the people who are inspecting our houses don't know what's going on, and we're complying, and we're spending all this extra money to make sure our house meet these energy codes. But the inspectors don't know what to look for. It seems like we're putting the cart before the horse, you know. So I thank you for your time again. Maybe some classes for the people inspecting maybe have everybody on the same page. First. classes for the builders and the subcontractors. There's just so much that needs to be done before this code could even become a reasonable code.
	I am a local real estate broker. I also work in new construction. just wanted to come and say, I'm against this. I really want us to skip the 2021 and start focusing on the 2024 code cycle, I mean, housing is already expensive, and we just keep layering and layering and layering these over complicated codes. can keep going on and on and on. But I think if we're really looking for affordable housing, we need to stop over complicating and putting burdens, burden some codes on our local jurisdictions as well cause talking to some local jurisdictions. They're not even sure how they're gonna roll out with some of these codes. So my request is that we get rid of 2021, and we just start working on 2024.
Mark Shepard	I represent Rob Rice Holmes. I was just gone in to give my 2 cents. I was hoping that we could wait till the 2024 cycle of codes before we update. We're already so far into this one. There's already so many issues going on with it, and no one really knows how to adopt it. And adapt it into the field not to mention. We already got so many other issues going on with housing, prices and affordability. The last thing we need to do is make that any more difficult on anyone else. So that's my 2 cents. I just wanted to put that in.
Seth Vidana	I'm the climate and energy manager for the city, Bellingham and I just

Adioung	wanted to say on record here that as you may know, the city of Bellingham has passed already past climate, friendly building codes similar to the amendments that the Code Council is looking at, and we do urge you to accept these amendments. And the big reason for us are the 2 big reasons. One is having a consistent code around the State will be helpful for our builders, who build both in Bellingham and in Greater Watkom County. We've been hearing that here that having one code will assist folks : there and then also, just broadly having these amendments passed, will help us reach our State climate targets, and as a city that's committed to climate action. It's good to have these Have the State following a similar, a similar path. So for both of those reasons, we urge the Code Council to accept the amendments. The Hearing was adjourned at 2:02 p.m.
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