

**From:** Michael Brasgalla <michael.brasgalla@azurenw.com>  
**Sent:** Friday, September 27, 2019 3:53 PM  
**To:** DES SBCC <sbcc@des.wa.gov>  
**Subject:** 2018 Energy Code Comments

Dear Members of the State Building Code Council:

My name is Michael Brasgalla and I am the purchasing manager of Azure Northwest Homes. Azure Northwest Homes is a local homebuilder in Federal Way with 24 employees and build approximately 80 residential homes projects every year. Azure Northwest Homes is an active member in the Puget Sound area and focused on providing jobs and homes for all citizens in the Pacific Northwest.

I am concerned the proposed amendments to the 2018 Energy Code will significantly harm my ability to do business. Of the proposed amendments to the code, a significant cost is being place on the construction of the home, which will negatively affect our business and our goal to provide affordable homes to the area. With the one of the largest generations entering home buying market, the supply of entry-level homes is shrinking with no relief in sight. Increasing the costs with these proposals, will continue this trend, with builders increasing the prices of the homes. This increase will deter many customer from buying homes and cause many builders/trades to slow down or close their doors.

As with the implementation of the 2015 energy code, I have costed all the options for each size of my home to meet criteria and provide a quality home to our buyers. With the 2015, I saw an average increase of \$2,500; with the proposed 2018 code, I am seeing an increase in costs of at least \$9,750. This cost is still missing 0.5 credits to meet the new 6.0 requirement. Below is a breakdown of credits going for and the cost.

Option	Description	Credits	Cost
1.3	Prescriptive compliance is based on Table R402.1.1 with the following modifications: Vertical fenestration U = 0.28 Floor R-38 Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under entire slab or Compliance based on Section R402.1.4: Reduce the Total conductive UA by 5%.	0.5	\$2500
2.1	Compliance based on R402.4.1.2: Reduce the tested air leakage to 3.0 air changes per hour maximum at 50 Pascals or For R-2 Occupancies, optional compliance based on Section R402.4.1.2: Reduce the tested air leakage to 0.3 cfm/ft2 maximum at 50 Pascals and All whole house ventilation requirements as determined by Section M1507.3 of the International Residential Code or Section 403.8 of the International Mechanical Code shall be met with a high efficiency fan(s) (maximum 0.35 watts/cfm), not interlocked with the furnace fan (if present). Ventilation	0.5	\$400

	<p>systems using a furnace including an ECM motor are allowed, provided that they are controlled to operate at low speed in ventilation only mode.</p> <p>To qualify to claim this credit, the building permit drawings shall specify the option being selected, the maximum tested building air leakage, and shall show the qualifying ventilation system and its control sequence of operation.</p>		
3.1	<p>Energy Star rated (U.S. North) Gas or propane furnace with minimum AFUE of 95% or Energy Star rated (U.S. North) Gas or propane boiler with minimum AFUE of 90%.</p> <p>To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.</p>	1.0	\$200
4.2	<p>HVAC equipment and associated duct system(s) installation shall comply with the requirements of Section R403.3.7.</p> <p>Locating system components in conditioned crawl spaces is not permitted under this option.</p> <p>Electric resistance heat and ductless heat pumps are not permitted under this option.</p> <p>Direct combustion heating equipment with AFUE less than 80% is not permitted under this option.</p> <p>To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and shall show the location of the heating and cooling equipment and all the ductwork.</p>	1.0	\$400
5.1	<p>A drain water heat recovery unit(s) shall be installed, which captures waste water heat from all and only the showers, and has a minimum efficiency of 40% if installed for equal flow or a minimum efficiency of 54% if installed for unequal flow. Such units shall be rated in accordance with CSA B55.1 or IAPMO IGC 346-2017 and be so labeled.</p> <p>To qualify to claim this credit, the building permit drawings shall include a plumbing diagram that specifies the drain water heat recovery units and the plumbing layout needed to install it. Labels or other documentation shall be provided that demonstrates that the unit complies with the standard.</p>	0.5	\$3250
5.5	<p>Water heating system shall include one of the following: Electric heat pump water heater meeting the standards for Tier III of NEEA's advanced water heating specification or</p>	1.5	\$800

	For R-2 Occupancy, electric heat pump water heater(s), meeting the standards for Tier III of NEEA's advanced water heating specification, shall supply domestic hot water to all units. If one water heater is serving more than one dwelling unit, all hot water supply and recirculation piping shall be insulated with R-8 minimum pipe insulation. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the water heater equipment type and the minimum equipment efficiency.		
7.1	All of the following appliances shall be new and installed in the dwelling unit and shall meet the following standards: Dishwasher – Energy Star rated Refrigerator (if provided) – Energy Star rated Washing machine – Energy Star rated Dryer – Energy Star rated, ventless dryer with a minimum CEF rating of 5.2. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall show the appliance type and provide documentation of Energy Star compliance. At the time of inspection, all appliances shall be installed and connected to utilities. Dryer ducts and exterior dryer vent caps are not permitted to be installed in the dwelling unit.	0.5	\$2200
Total		5.5(Needs 6.0)	\$9750

The options with the most amount of credits are also those with the largest cost. Option 1.4 requires vertical fenestration of U=0.25 and Insulation R-5 on the exterior of the house. Currently these are extremely expensive because very few manufacturers are able to produce a window to meet this. The insulation is a new practice and the market is not educated in proper so trades will charge large amounts to protect against any warranty issues, which will happen from inexperience. Solar energy option 6.1 is an attractive option for builders, the issue is most systems have a total cost of \$17,900 for this market, and that is only worth 3.0 credits max.

Many of these proposals are causing an increase in cost from the manufacturers being unable to meet the standards. For example, the window industry has had knowledge of the 2015 code for years, yet most are still unable to make windows with a U-factor of 0.25; and the cost of a U-factor 0.28 window has dropped from \$45 to \$40 more than a U-factor 0.3 window. With them being unable to accommodate to these changes, the prices sky rocket and any hope of making a buyer affordable home out of the question. Another supplier issue has been in regards to the low flow faucets. I buy all my faucets that meet CalGreen criteria and are CEC (California Energy Commission) compliant do handle areas of draught conditions but still they have a larger gallons per minutes score than this proposed number.

With the cost of such expensive options, a push could be made towards affordable houses, focusing on buildings under 1,500 sqft. Currently in the 2015 code, they require 2.0 less credits, making the ability to

achieve more cost effective and smaller homes will have a lower sales price, helping to supply the entry-level buyers. The 2018 proposed code removes that. By increasing the credits for these smaller homes, builders will continue to build bigger homes because the cost can be supported with increased sales prices.

While I understand it is the mandate of the State Building Code Council to implement policy that will increase the energy efficiency of new construction, I urge you to remember how vitally important it is to provide code that addresses the needs of both energy targets and the needs of the industry that will have to execute them.

Azure Northwest Home respectfully requests that you reconsider the introduction of the proposed amendments into the Washington State Energy Code. As drafted, it is so onerous on small business contractors and future homeowners that revisions alone cannot redeem it.

Sincerely yours,

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