



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

Washington State Energy Code Development Standard Energy Code Proposal Form

Jan 2022

Log No. 21-GP3-001

Code being amended: Commercial Provisions Residential Provisions

Code Section # Table R406.2, Table R406.3, and Ch. 6 Referenced Standards

Brief Description:

This proposal re-introduces energy credits for natural gas, propane, or other combustion driven equipment. Within High Efficiency HVAC Equipment Options, two new options, 3.10 and 3.11, are introduced to address innovative and emerging technologies – specifically gas-fired heat pumps. Efficient Water Heating Options 5.6 and 5.7 are re-introduced, with the option description and associated credit values taken directly from the 2018 WSEC-R. For Efficient Water Heating Options, one new option, 5.8, is introduced to address innovative and emerging technologies – specifically gas-fired heat pumps.

Proposed code change text: (Copy the existing text from the Integrated Draft, linked above, and then use underline for new text and ~~strikeout~~ for text to be deleted.)

**Table R406.2
Fuel Normalization Credits**

System Type	Description of Heating Sources	Credits	
		All Other	Group R-2 ^a
1	For combustion heating system using equipment meeting minimum federal efficiency standards for the equipment listed in Table C403.3.2(5) or C403.3.2(6)	-3.0 <u>0.0</u>	<u>0.0</u>
2	For an initial heating system using a heat pump that meets federal standards for the equipment listed in Table C403.3.2(2) and supplemental heating provided by electric resistance or a combustion furnace meeting minimum standards listed in Table C403.3.2(5) ^b	0.0	0.0
3	For heating system based on electric resistance only (either forced air or zonal)	-1.0	-0.5
4 ^c	For a heating system using a heat pump that meets federal standards for the equipment listed in Table C403.3.2(2) or C403.3.2(9) or Air to water heat pump units that are configured to provide both heating and cooling and are rated in accordance with AHRI 550/590	1.5	2.0
5	For heating system based on electric resistance with:	0.5	0.0

	1. Inverter-driven ductless mini-split heat pump system installed in the largest zone in the dwelling or 2. With 2 kW or less total installed heating capacity per dwelling		
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**TABLE R406.3
ENERGY CREDITS**

OPTION	DESCRIPTION	CREDIT(S)	
		All Other	Group R-2b
3. HIGH EFFICIENCY HVAC EQUIPMENT OPTIONS			
Only one option from Items 3.1 through 3.8 may be selected in this category. Item 3.9 may be taken with Items 3.1 or 3.3 ^c only.			
<u>3.10</u>	<u>Gas-fired heat pump(s) meeting ANSI Z21.40.2 and Z21.40.4 or CSA, with a minimum UEF of 1.15.</u> <u>For R-2 Occupancy, gas-fired heat pump(s) meeting ANSI Z21.40.2 and Z21.40.4 or CSA, with a minimum UEF of 1.15, shall serve all units.</u>	<u>1.5</u>	<u>1.5</u>
<u>3.11^f</u>	<u>Combination water heating and space heating system shall include one of the following:</u> <u>Gas-fired heat pump water heater(s) meeting Tier 2 of the NEEA Advanced Water Heating Specification for Gas-Fueled Residential Storage Water Heaters Version 1.0.</u> <u>or</u> <u>For R-2 Occupancy, gas-fired heat pump water heater(s) meeting Tier 2 of the NEEA Advanced Water Heating Specification for Gas-Fueled Residential Storage Water Heaters Version 1.0. shall serve all units.</u> <u>or</u> <u>For R-2 Occupancy, gas-fired heat pump(s) meeting ANSI Z21.40.2 and Z21.40.4 or CSA, with a minimum UEF of 1.15, shall serve all units.</u> <u>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 and, for solar water heating systems, the calculation of the minimum energy savings.</u>	<u>2.5</u>	<u>2.5</u>

OPTION	DESCRIPTION	CREDIT(S)	
		All Other	Group R-2b
5. EFFICIENT WATER HEATING OPTIONS			
Only one option from Items 5.3 through 5.5 <u>5.8</u> may be selected in this category. Items 5.1 and 5.2 may be combined with any option.			
<u>5.6</u>	<p><u>Water heating system shall include the following:</u></p> <p><u>Energy Star rated gas or propane water heater with a minimum UEF of 0.80.</u></p> <p><u>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.</u></p>	<u>0.5</u>	<u>0.5</u>
<u>5.7</u>	<p><u>Water heating system shall include the following:</u></p> <p><u>Energy Star rated gas or propane water heater with a minimum UEF of 0.91.</u></p> <p><u>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.</u></p>	<u>1.0</u>	<u>1.0</u>
<u>5.8</u>	<p><u>Water heating system shall include one of the following:</u></p> <p><u>Gas-fired heat pump water heater(s) meeting Tier 2 of the NEEA Advanced Water Heating Specification for Gas-Fueled Residential Storage Water Heaters Version 1.0.</u></p> <p><u>or</u></p> <p><u>For R-2 Occupancy, gas-fired heat pump water heater(s) meeting Tier 2 of the NEEA Advanced Water Heating Specification for Gas-Fueled Residential Storage Water Heaters Version 1.0. shall supply domestic hot water to all units.</u></p> <p><u>or</u></p> <p><u>For R-2 Occupancy, gas-fired heat pump water heater(s) meeting ANSI Z21.40.2 and Z21.40.4 or CSA, with a minimum UEF of 1.15, shall supply domestic hot water to all units.</u></p> <p><u>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 and, for solar water heating systems, the calculation of the minimum energy savings.</u></p>	<u>1.5</u>	<u>1.5</u>

[Table R406.3 Footnotes]

- a. An alternative heating source sized at a maximum of 0.5 Watts/ft² (equivalent) of heated floor area or 500 Watts, whichever is bigger, may be installed in the dwelling unit.
- b. See Section R401.1 and residential building in Section R202 for Group R-2 scope.
- c. Option 3.9 can only be taken with Options 3.1 and 3.3. To qualify to claim Option 3.8 with 3.3, the system shall be a 1-2 speed heat pump system. Variable capacity heat pumps are ineligible from claiming this option.
- d. This option may only be claimed if serving System Type 4 or 5 from Table R406.2.
- e. Primary living areas include living, dining, kitchen, family rooms, and similar areas.

- f. [Option 3.11 may only be taken with Efficient Water Heating Options 5.1 or 5.2. Equipment sizing for space heating shall be calculated as provided in Section R403.7 with increased capacity to provide a minimum of 75 percent of peak hot water demand or shall be sized in accordance with approved manufacturers specifications or guidance. Supplementary heat for water heating system shall be in accordance with Section R403.5.7.1.](#)

Chapter 6 REFERENCED STANDARDS

ANSI

America National Standards Institute, 25 West 43rd Street, 4th Floor, New York, NY 10036

Standard reference number	Title	Referenced in code section number
Z21.40.2-1996	Gas-Fired, Work Activated Air-Conditioning and Heat Pump Appliances (Internal Combustion)	Table R406.3
Z21.40.4-1996	Performance Testing And Rating Of Gas-Fired, Air Conditioning And Heat Pump Appliances	Table R406.3

NEEA

Northwest Energy Efficiency Alliance, 421 SW 6th Ave, Suite 600, Portland, OR 97204

Standard reference number	Title	Referenced in code section number
NEEA-2019	Advanced Water Heating Specification for Gas-Fueled Residential Storage Water Heaters, Version 1.0	Section R403.5

Purpose of code change:

The changes noted above are intended to address the SBCC’s call for proposals that “... address the legal uncertainty stemming from the decision in California Restaurant Association v. City of Berkeley recently issued by the Ninth Circuit Court of Appeals.”

The federal Energy Policy and Conservation Act, 42 U.S.C. § 6201 *et seq.* (EPCA), as confirmed by the recent U.S. Court of Appeals for the Ninth Circuit ruling in California Restaurant Association vs. City of Berkeley, preempts state regulation of covered appliance energy use and efficiency. § 6297(b) – “... for any covered product, no State regulation, or revision thereof, concerning the energy efficiency, energy use, or water use of the covered product shall be effective with respect to such product ...”. § 6297(f)(3) – “... a regulation or other requirement contained in a State or local building code for new construction concerning the energy efficiency or energy use of such covered product is not superseded by this part if the code complies with all...” seven of the exemptions provided.

Collectively, the seven exemptions only allow for performance-based codes that provide builders and consumers choice in selection of options that meet the overall energy efficiency or energy use objectives. Any code that precludes one type of appliance over another is not permitted under the seven exemptions.

This proposal serves as a compliment to a proposal addressing Sections R403.5.7, R403.5.7.1, R403.13, R503.1.2, R503.1.3, and Tables R405.2(1) and R406.2. The aforementioned proposal aimed at deletion of sections preempted by EPCA is complimented by this proposal which seeks to introduce energy credit options for combustion driven heating equipment on a one-for-one basis as required by EPCA § 6297(f)(3)(C).

Your amendment must meet one of the following criteria. Select at least one:

- | | |
|---|--|
| <input type="checkbox"/> Addresses a critical life/safety need. | <input checked="" type="checkbox"/> Consistency with state or federal regulations. |
| <input type="checkbox"/> The amendment clarifies the intent or application of the code. | <input type="checkbox"/> Addresses a unique character of the state. |
| <input type="checkbox"/> Addresses a specific state policy or statute.
(Note that energy conservation is a state policy) | <input type="checkbox"/> Corrects errors and omissions. |

Check the building types that would be impacted by your code change:

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Single family/duplex/townhome | <input type="checkbox"/> Multi-family 4 + stories | <input type="checkbox"/> Institutional |
| <input checked="" type="checkbox"/> Multi-family 1 – 3 stories | <input type="checkbox"/> Commercial / Retail | <input type="checkbox"/> Industrial |

Your name	Tyler Jennings	Email address	ty.jennings@cngc.com
Your organization	Cascade Natural Gas Co.	Phone number	509-975-0154
Other contact name	Alyn Spector		

Economic Impact Data Sheet

Is there an economic impact: Yes No

Briefly summarize your proposal's primary economic impacts and benefits to building owners, tenants, and businesses. If you answered "No" above, explain your reasoning.

This proposal does not create any new requirements, but removes requirements that if not removed due to EPCA preemption would have increased cost to building owners, tenants, and businesses. Therefore, there is no cost impact where referenced to the currently adopted 2018 WSEC.

Provide your best estimate of the **construction cost** (or cost savings) of your code change proposal? (See OFM Life Cycle Cost [Analysis tool](#) and [Instructions](#); use these [Inputs](#). **Webinars on the tool can be found [Here](#) and [Here](#)**)

\$[Click here to enter text.](#)/square foot (For residential projects, also provide \$[Click here to enter text.](#)/ dwelling unit)

Show calculations here, and list sources for costs/savings, or attach backup data pages

Provide your best estimate of the **annual energy savings** (or additional energy use) for your code change proposal?

[Click here to enter text.](#)KWH/ square foot (or) [Click here to enter text.](#)KBTU/ square foot

(For residential projects, also provide [Click here to enter text.](#)KWH/KBTU / dwelling unit)

Show calculations here, and list sources for energy savings estimates, or attach backup data pages

List any **code enforcement** time for additional plan review or inspections that your proposal will require, in hours per permit application:

No additional time required.

Small Business Impact. Describe economic impacts to small businesses:

This proposal will undo the negative impacts associated with the implementation of code sections prohibiting the use of conventional combustion driven equipment for primary space and water heating.

Housing Affordability. Describe economic impacts on housing affordability:

This proposal will undo the negative impacts associated with the implementation of code sections prohibiting the use of conventional combustion driven equipment for primary space and water heating.

Other. Describe other qualitative cost and benefits to owners, to occupants, to the public, to the environment, and to other stakeholders that have not yet been discussed:

This proposal will "... address the legal uncertainty stemming from the decision in California Restaurant Association v. City of Berkeley recently issued by the Ninth Circuit Court of Appeals" by introducing energy credit options for combustion driven heating equipment on a one-for-one basis as required by EPCA § 6297(f)(3)(C).

Instructions: Send this form as an email attachment, along with any other documentation available, to: sbcc@des.wa.gov. For further information, call the State Building Code Council at 360-407-9255.

All questions must be answered to be considered complete. Incomplete proposals will not be accepted.