



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

Washington State Energy Code Development Standard Energy Code Proposal Form

Jan 2022

Log No. 24-RE-015 Vers. 2 (6/26/25)

Code being amended: ☐ Commercial Provisions ☒ Residential Provisions

Code Section # R406.2

Brief Description: Table R406.2 includes equalization credits for various heating systems used in the residential sector. The table was redefined as an efficiency equalization in the 2021 code but this section retained its name and leads to unnecessary confusion. System 2 was designed to be a dual fuel credit for a combination of electric heat pumps and gas furnace supplement. This proposal returns the credit to gas furnace only and removes the confusion brought on by the addition made in the 2021.

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.)

R406.2 Carbon emission Energy efficiency equalization. This section establishes a base equalization between fuels ~~site energy~~ used by ~~heating systems and~~ to define the equivalent carbon emissions of the options specified. The permit shall define the base ~~system~~ fuel selection to be used. ~~and~~ The points specified in Table R406.2 shall be used to ~~reduce~~ the requirements in Section R406.3.

**TABLE R406.2
ENERGY EQUALIZATION CREDITS**

System Type	Description of Primary Heating Source	Credits	
		All Other	Group R-2 ^a
1	For combustion heating equipment meeting minimum federal efficiency standards for the equipment listed in Table C403.3.2(5) or C403.3.2(6)	0	0
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 a separate supplemental heating system meeting minimum standards listed in Table C403.3.2(5) ^b	1.5	0
3	For heating system based on electric resistance only (either forced air or Zonal)	0.5	-0.5
4 ^c	For 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). Supplemental heat would be provided by electric resistance heat integrated into the air handler. 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	3.0	2.0
5	For heating system based on electric resistance with: 1. Inverter-driven ductless mini-split heat pump system installed in the largest zone in the dwelling, or 2. With 2kW or less total installed heating capacity per dwelling	2.0	0

- a. See Section R401.1 and residential building in Section R202 for Group R-2 scope.
- b. The gas back-up furnace will operate as fan-only when the heat pump is operating. The heat pump shall operate at all temperatures above 35°F (3.3°C) (or lower). Below that “changeover” temperature, the heat pump would not operate to provide space heating. ~~The gas furnace provides heating below 35°F (3.3°C) (or lower). Other auxiliary heating would could be used to provide heating after the compressor is locked out.~~
- c. ~~These system include a central air handler and electric resistance elements as supplemental capacity. Additional points for the HVAC system are included in Table R406.3.~~

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

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

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

- | | | |
|---|---|--|
| ☒ Single family/duplex/townhome | ☐ Multi-family 4 + stories | ☐ Institutional |
| ☐ Multi-family 1 – 3 stories | ☐ Commercial / Retail | ☐ Industrial |

Your name	David Baylon	Email address	david@davidbaylon.com
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Your organization	retired	Phone number	206-719-5772
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Other contact name [Click here to enter text.](#)

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.

The 2021 code cycle the SBCC elected to abandon the use of carbon emissions as a criteria for the energy code. This amendment removes the reference to carbon emissions in accordance with that decision. The remainder of the changes in this proposal is to clarify the systems in the table and would have no impact on the final system selected by the contractor.

This system credit is designed to allow a gas furnace to supplement split system heat pump. The gas furnace is typically turned on when the heat pump's reduced capacity at lower temperature [when the temperature set point is not maintained](#). Because the furnace heats the indoor coil it is necessary to turn off the compressor to avoid stress and reduce (substantially) compressor life. Footnote "b" specifies the temperature when the system would turn off the compressor and the gas furnace would be activated.

Before the changeover to the gas furnace the electric resistance would provide any supplemental heat or emergency heat as required. The use of the electric resistance language was removed in System #2 as it is both confusing and misleading [and a standard part of a split system heat pump](#).

The electric resistance used in virtually all split system heat pumps is designed to work with the compressor coil to provide capacity increase when the lower temperatures require added input to maintain the thermostat set point. This function is part of the AHRI 210-240 testing protocol included in the overall HSPF2 ratings. Footnote "c" clarifies the intent of system 3 to apply to conventional split system heat pumps.

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: By clarifying the language it would decrease the enforcement time for table R406.2.

Would reduce confusion and clarify the code enforcement for HVAC points in this table.

Small Business Impact. Describe economic impacts to small businesses: none

Housing Affordability. Describe economic impacts on housing affordability: none

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:

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.