



I have two heating systems in my home. What fuel normalization and energy credits do I select under the 2018 WSEC-R?

The residential provisions of the 2018 Washington State Energy Code (WSEC-R) requires each dwelling unit to achieve a number of additional credits, per [WSEC Section R406](#). There are two types of credits:

- **Fuel normalization credits** depend on heating system type, and
- **Energy credits** are achieved by selecting energy efficiency options from several categories.

The total number of credits required depends on the floor area. It is not uncommon for homes to have more than one heating system type. A question that is frequently asked is which system is used to determine the additional credits required?

When there is more than one type of heating system installed in a home, the fuel normalization credits, and energy credits are based the *primary heating system*. The primary heating system is the one serving the larger heating load, which is often the system providing heat to the greater conditioned floor area.

Here are some examples that illustrate selection of System Type from Table 406.2 “Fuel Normalization Credits” and Option 3 from Table 406.3 “Energy Credits.” See screenshots from these tables below. You can also find these tables in Section R406 of the [WSEC-R](#), as well as in the PDF worksheet [here](#).

- A home has a natural gas furnace serving the entire home, plus a heat pump that is sized for air conditioning. The heat pump provides some supplementary heat but is not sized to serve the entire heating load. In this case, the natural gas furnace is the primary heating system.
 - Select System Type 1 for 0 fuel normalization credits (combustion system meeting minimum federal standards).
 - This home may also achieve 1.0 energy credit under Option 3.1 if the AFUE of the furnace exceeds 95%.
- A home has a central heat pump system serving most of the home. A space over the garage will be heated using a ductless minisplit heat pump that has a smaller capacity than the central system. In this case, the primary heating system is the central heat pump.
 - Select System Type 2 (heat pump) for 1.0 fuel normalization credits.
 - This home may also achieve either Option 3.2 or Option 3.5 energy credit, depending on the HSPF of the **central heat pump**.
- A 2,500 square foot home has a ductless heat pump system with electric resistance wall heaters in the bathrooms and utility room. There are two possibilities depending on how much electric resistance heat is installed:
 - The total amount of electric resistance heat to be installed is 1,200 watts, resulting in 0.48 watts per square foot. This is below the 0.5 watts per square foot specified in **footnote a** of Table 406.3 (shown below). Therefore, this qualifies as System Type 2 (heat pump) and earns 1.0 fuel normalization credit. It also achieves 2.0 energy credits for Option 3.6, for a total of 3 credits.
 - On the other hand, if 1,500 watts of electric resistance heat is installed in the smaller zones, the 0.5 watt per square foot budget in footnote a would be exceeded. This would qualify as System Type 4 for 0.5 fuel normalization credits. It would also achieve 1.5 energy credits for Option 3.4, for a total of 2 credits.



Table 1. Fuel Normalization Table R406.2 from 2018 WSEC-R

TABLE R406.2 FUEL NORMALIZATION CREDITS			
System Type	Description of Primary Heating Source	Credits	
		All Other	Group R-2
1	Combustion heating equipment meeting minimum federal efficiency standards for the equipment listed in Table C403.3.2(4) or C403.3.2(5)	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(1)C or C403.3.2(2) 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	1.0	1.0
3	For heating system based on electric resistance only (either forced air or Zonal)	-1.0	-1.0
4	For heating system based on electric resistance with a ductless mini-split heat pump system in accordance with Section R403.7.1 including the exception	0.5	N/A
5	All other heating systems	-1	-0.5



Table 2. High-efficiency HVAC options in Table R406.3 from 2018 WSEC-R

TABLE 406.3 (continued) ENERGY CREDITS			
OPTION	DESCRIPTION	CREDIT(S)	
		All Other	Group R-2
3. HIGH EFFICIENCY HVAC EQUIPMENT OPTIONS			
Only one option from Items 3.1 through 3.6 may be selected in this category.			
3.1 ^a	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%. 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.	1.0	1.0
3.2 ^a	Air-source centrally ducted heat pump with minimum HSPF of 9.5. 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.	1.0	N/A
3.3 ^a	Closed-loop ground source heat pump; with a minimum COP of 3.3 or Open loop water source heat pump with a maximum pumping hydraulic head of 150 feet and minimum COP of 3.6. 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.	1.5	1.0
3.4	Ductless mini-split heat pump system, zonal control: In homes where the primary space heating system is zonal electric heating, a ductless mini-split heat pump system with a minimum HSPF of 10.0 shall be installed and provide heating to the largest zone of the housing unit. 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.	1.5	2.0
3.5 ^a	Air-source, centrally ducted heat pump with minimum HSPF of 11.0. 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.	1.5	N/A
3.6 ^a	Ductless split system heat pumps with no electric resistance heating in the primary living areas. A ductless heat pump system with a minimum HSPF of 10 shall be sized and installed to provide heat to entire dwelling unit at the design outdoor air temperature. To qualify to claim this credit, the building permit drawings shall specify the option being selected, the heated floor area calculation, the heating equipment type(s), the minimum equipment efficiency, and total installed heat capacity (by equipment type).	2.0	3.0

Footnote a:

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.



For more information

- See our [Energy Code website](#) for code compliance forms, resources, and training opportunities.
- Contact us with your energy code questions at energycode@energy.wsu.edu or call (360) 956-2042.
- Consult the text of the energy code: [2018 Washington State Energy Code-Residential text](#).

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