

## Standard Energy Code Proposal Form

Log No. [21-GP3-037 REV 1 submitted 7-18-23](#)

Code being amended:  Commercial Provisions  Residential Provisions

Code Section **C401.2 & New Section C401.3**

Brief Description:

**This proposal provides a prescriptive compliance path that expressly permits EPCA-covered fossil fuel-fired HVAC heating and service water heating equipment.** To maintain energy use equivalency with the existing prescriptive compliance path, additional C406 efficiency credits are required to compensate for the difference in energy efficiency between fossil fuel and heat pump appliances. Up to 80% of these additional credits are permitted to be renewable energy credits. **(Credit values shown in the two tables are placeholders, awaiting results from energy modeling studies.)**

Proposed code change text:

### WA Code Potential Fossil Fuel Compliance Pathway

Jonlin revised draft 7/18/23

**C401.2 Application.** *Commercial buildings* shall comply with the Fossil Fuel Compliance Path according to Section C401.3, or with one of the following:

1. The requirements of Sections C402, C403, C404, C405, C406, C408, C409, C410 and C411.
2. The requirements of Section C407.
3. When adopted by the local jurisdiction, the requirements of Appendix F, Outcome-Based Energy Budget, Sections C408, C409, C410, C411 and any specific section in Table C407.2 as determined by the local jurisdiction. The Proposed Total UA of the proposed building shall be no more than 20 percent higher than the Allowed Total UA as defined in Section C402.1.5.

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**C401.3 Fossil Fuel Compliance Path.** Buildings complying with the Fossil Fuel Compliance Path shall comply with the prescriptive compliance path of this code as defined in Item 1 of Section C401.2, and as modified by this section. The increased number of additional efficiency credits required by this section shall be the sum of those required by Sections C401.3.3.1 and C401.3.4.1.

**C401.3.1 Modification of code requirements.** For use of this compliance path only, the following changes shall be made to the code:

1. Strike the phrase "or fossil fuel combustion" from the first sentence of Section C403.1.4

2. Change the phrase “electric resistance” to “electric resistance or fossil fuel” in each location where it occurs in the exceptions to Section C403.1.4.
3. Add the following to the beginning of Section C404.2.1: “Fossil fuel appliances are permitted for both primary and supplemental service water heating, or else service hot water shall conform to the remainder of this paragraph.”
4. For the exceptions to Section C404.2.1, insert the phrase “fossil fuel or” before each use of the terms “electric” or “electric resistance.”
5. For determining renewable energy credits in Equation 4-17 of Section C406.2.5, disregard the phrase “limited to 50 percent of the required credits in Section C406.1” in the definition of the factor  $AEC_{RRa}$
6. Compliance with Section C403.1.1, Total System Performance Ratio, is not required.

**C401.3.2 Conversion factors.** For the purpose of the use of this compliance path, each of the values in Table C406.2 is permitted to be increased by the following factors:

1. Factor of 1.3 for the following measures impacting fossil fuel systems:
  - a. 2. HVAC TSPR
  - b. 4. Heating efficiency
  - c. 15. Shower drain heat recovery
  - d. 16. Service water heat recovery
  - e. 19 Point of use water heater
  - f. 20. SHW distribution right-sizing
  - g. 21 SHW circulation system
  - h. 23. Low flow residential showerheads
  - i. 24. Enhanced envelope performance
  - j. 25. Base reduced air leakage
  - k. 26. Enhanced reduced air leakage
2. Factor of 1.2 for measures impacting electrical systems, including all measures not defined in Item 1 above.

**C401.3.3 HVAC fossil fuel equipment.** Fossil fuel combustion appliances are expressly permitted for HVAC heating, and shall comply with the applicable efficiency standards referenced in Section C403.3.3.2

**C401.3.3.1 Additional efficiency credits.** The number of energy efficiency credits required shall be increased according to the following equation:

$$CR = A - (A \times B/C)$$

Where:

CR = additional credits required, rounded to the nearest whole number

A = baseline credits from Table C401.3.3.1

B = installed heating capacity in kBTU/h of heating appliances that comply with any of the exceptions to Section C403.1.4

C = total installed heating capacity in kBTU/h of all heating appliances

<u>Table C401.3.3.1</u>		
<u>HVAC Heating Equipment Credits</u>		
<u>Building Area Type</u>	<u>Baseline Credits Required</u>	
	<u>Climate Zone 4C</u>	<u>Climate Zone 5B</u>
<u>Multifamily</u>	<u>195</u>	<u>187</u>
<u>Health care/hospital</u>		
<u>Hotel/motel</u>		
<u>Office</u>	<u>112</u>	<u>165</u>
<u>Restaurant</u>		
<u>Grocery</u>		
<u>Other retail</u>		
<u>School</u>	<u>52</u>	<u>60</u>
<u>Warehouse</u>		
<u>All others</u>		

**C401.3.4 Service water heating fossil fuel equipment.** Fossil fuel combustion appliances are expressly permitted for service water heating, and shall comply with applicable efficiency standards referenced in Table C404.2.

**C401.3.4.1 Additional efficiency credits.** The number of energy efficiency credits required shall be increased according to the following equation:

$$CR = A \times CF$$

Where:

CR = additional credits required, rounded to the nearest whole number

A = installed fossil fuel heating capacity in kBTU/hr of service water heating appliances

CF = conversion factor from Table C401.3.4.1

<u>Table C401.3.4.1</u>		
<u>Service Water Heating Equipment Credits</u>		
<u>Building Area Type</u>	<u>Baseline Credits Required</u>	
	<u>Climate Zone 4C</u>	<u>Climate Zone 5B</u>
<u>Multifamily</u>	<u>65</u>	<u>62</u>
<u>Health care/hospital</u>		
<u>Hotel/motel</u>		
<u>Office</u>	<u>37</u>	<u>55</u>
<u>Restaurant</u>		
<u>Grocery</u>		
<u>Other retail</u>		
<u>School</u>	<u>17</u>	<u>20</u>

Warehouse		
All others		

**C401.3.5 Renewable energy credit limit.** No more than 80 percent of the efficiency credits required by Sections C401.4.1 and C401.4.1 are permitted to be Renewable Energy credits.

**C401.3.6 Electrification readiness.** Dedicated circuits at the main building panel shall be provided with sufficient power to support future conversion of all fossil fuel-fired HVAC heating and service water heating appliances to electric heat pump appliances.