

GEW28-14

602.1.2.1, Table 602.1.2.1, 602.1.2.2, Table 602.1.2.2, 602.1.2.3

Proponent: David Collins, The Preview Group, representing American Institute of Architects (dcollins@preview-group.com)

Revise as follows:

602.1.2.1 Modifications to Appendix G of ASHRAE 90.1. Energy units. The performance rating in Section G1.2 of ASHRAE 90.1 shall be based on energy use converted to consistent units in accordance with Sections 602.1.2.2 and 602.1.2.3, instead of energy cost. Energy use shall be converted to consistent units by multiplying the nonrenewable energy fossil fuel use at the utility meter or measured point of delivery to Btu's and multiplying by the conversion factor in Table 602.1.2.2.

602.1.2.2 Site to source electric power conversion. In calculating the annual energy use index, electric energy used at the site shall be consistent units by converting the electric power use at the utility meter or measured point of delivery to Btus and multiplying by the conversion factor in Table 602.1.2.1 based on the geographical location of the building.

**TABLE 602.1.2.2
U.S. AVERAGE BUILDING FUELS ENERGY CONVERSION FACTORS BY FUEL TYPE^a**

FUEL TYPE	ENERGY CONVERSION FACTOR
Natural Gas ^a	1.09
Fuel Oil ^a	1.13
LPG ^a	1.12
<u>Purchased District Heating – Hot Water</u>	<u>1.35</u>
<u>Purchased District Heating – Steam</u>	<u>1.45</u>
<u>District Cooling</u>	<u>0.33 x value in Table 602.1.2.1</u>
<u>Other</u>	<u>1.1</u>

a. Source: Gas Technology Institute Source Energy and Emissions Analysis Tool.

602.1.2.3 Nonrenewable energy. In calculating the annual energy use index for fuel other than electrical power, ~~energy use shall be converted to consistent units by multiplying the nonrenewable energy fossil fuel use at the utility meter or measured point of delivery to Btu's and multiplying by the conversion factor in Table 602.1.2.2. The conversion factor for energy sources not included in Table 602.1.2.2 shall be 1.1. Conversion factors for purchased district heating shall be 1.35 for hot water and 1.45 for steam. The conversion factor for district cooling shall be 0.33 times the value in Table 602.1.2.1 based on the EPA eGRID Sub-region in which the building is located.~~

Reason: The three sections of 602.1.2 are unnecessarily complicated. Sections 602.1.2.1, 602.1.2.2 and 602.1.2.3 provide what is identified in their titles as modifications to Appendix G of ASHRAE 90.1, but in reality they are simply attempting to change the methods of looking at various energy sources so that they can be evaluated in a consistent manner. The change to Section 602.1.2.1 is therefore changed to match the content of the section. The content of the table has been modified to include all fuels addressed.

The title to Section 602.1.2.2 has been changed to make what is occurring in the section clear. Finally, Section 602.1.2.3 has been modified by deleting the provision as they will already be addressed in the changes to 602.1.2.1 requiring energy to be measured consistently, independent of the type of energy.

Cost Impact: Will not increase the cost of construction.