

Energy Overview

Note 1. Noncombustible Renewable Energy. Noncombustible renewable energy is the sum of hydroelectric power, geothermal, solar/PV, and wind. In Table 1.3, total primary consumption of noncombustible renewable energy is reported as the sum of “Captured Energy” and the “Adjustment for Fossil Fuel Equivalence.”

Captured energy represents the energy from noncombustible renewable resources that is actually “captured” for final use. It includes the electricity generated from noncombustible resources (i.e., net generation from Table 8.2a converted to Btu using the energy conversion factor of 3,412 Btu/kWh) and the direct consumption of noncombustible renewable energy. Direct consumption of noncombustible renewable energy includes: solar thermal direct use energy, residential and commercial self-generated photovoltaic energy, geothermal energy from heat pumps, and direct use of geothermal energy.

The adjustment for fossil-fuel equivalence represents the energy losses that would have occurred if electricity from noncombustible renewable resources had been generated using the average fossil-fuel mix in a given year. The fossil-fuel

equivalent value is determined by converting electricity generation to Btu using the average fossil-fuel heat rate from Table A6. The “Adjustment for Fossil Fuel Equivalence” is then calculated as the difference between the fossil-fuel equivalent value of electricity generated and “captured” electricity generation.

For more information, see Appendix F.

Note 2. Non-Combustion Use of Fossil Fuels. Most fossil fuels consumed in the United States and elsewhere are combusted to produce heat and power. However, some are used directly for non-combustion use as construction materials, lubricants, chemical feedstocks, solvents, and waxes. For example, asphalt and road oil are used for roofing and paving; liquefied petroleum gases are used to create intermediate products that are used in making plastics; lubricants, including motor oil and greases, are used in vehicles and various industrial processes; petrochemical feedstocks are used to make plastics, synthetic fabrics, and related products; and natural gas is used to make nitrogenous fertilizers and as feedstock in the chemical industry. Estimates of non-combustion use of fossil fuels are based on the methodology underlying the nonfuel emissions calculations in EIA’s “Emissions of Greenhouse Gases in the United States,” Chapter 2, at http://www.eia.gov/environment/emissions/ghg_report/.