

**5.4.5 Water Heater Efficiencies**

| Residential Type        | Efficiency    | 2005                | Minimum<br>New Efficiency | 2010                             |
|-------------------------|---------------|---------------------|---------------------------|----------------------------------|
|                         | Parameter (1) | Stock<br>Efficiency |                           | Best-Available<br>New Efficiency |
| Electric Storage        | EF            | 0.90                | 0.90 (2)                  | 0.95 (2)                         |
| Electric Instantaneous  | EF            | 0.82                | 0.82                      | 0.98                             |
| Electric Heat Pump      | EF            | 2.00                | 2.00                      | 2.35                             |
| Gas-Fired Storage       | EF            | 0.60                | 0.59 (3)                  | 0.85 (3)                         |
| Gas-Fired Instantaneous | EF            | 0.82                | 0.82                      | 0.98                             |
| Oil-Fired Storage       | EF            | 0.50                | 0.53 (4)                  | 0.68 (4)                         |
| Solar                   | SEF           | 2.50                | N.A.                      | 2.50                             |

  

| Commercial Type         | Efficiency         | 2007                | Minimum<br>New Efficiency | 2010                             |
|-------------------------|--------------------|---------------------|---------------------------|----------------------------------|
|                         | Parameter (1)      | Stock<br>Efficiency |                           | Best-Available<br>New Efficiency |
| Electric Storage        | Thermal Efficiency | 0.98                | 0.98 (5)                  | 0.98 (5)                         |
| Electric Instantaneous  | Thermal Efficiency | 0.98                | 0.98                      | 0.98                             |
| Gas-Fired Storage       | Thermal Efficiency | 0.78                | 0.80 (6)                  | 0.96 (6)                         |
| Gas-Fired Instantaneous | Thermal Efficiency | 0.77                | 0.80                      | 0.85                             |
| Oil-Fired Storage       | Thermal Efficiency | 0.79                | 0.78 (7)                  | 0.85 (7)                         |

Note(s): 1) EF = energy factor and SEF = solar energy factor, which is the hot water energy delivered by the solar system divided by the electric or gas energy input to the system. 2) Based on a 50-gallon tank. 3) Based on a 40-gallon tank. 4) Based on a 30-gallon tank. 5) Based on a 120-gallon tank. 6) Based on a 100-gallon tank. 7) Based on a 70-gallon tank.

Source(s): EIA, EIA - Technology Forecast Updates – Residential and Commercial Building Technologies – Reference Case, Oct. 2011.