

Table 7.4 Energy Savings, in Trillions of Btu, in 1992

Technology	Coal	Oil	Gas	Total
Brandon Packing Rings	15.9	2.48	1.82	20.2
Electronic Octane		15.4		15.4
Thermefficient-100			5.11	5.11
Total	15.9	17.9	6.93	40.7

7.2.4 Value of Energy Savings

The value of the energy saved by each of the three technologies is dependent on the price of the particular fuel saved. The cost of energy saved by the **Brandon replacement packing rings** is priced by the cost of energy faced by electric utilities. The approximate cost of energy for an electric utility in 1993 is 1.40 \$/million Btu. Therefore, the value of the cumulative energy savings for the turbine units having the Brandon rings installed is approximately \$107 million 1992 dollars ($0.762 \times 10^{14} \text{ Btu} \times 1.40 \text{ \$/million Btu} = 0.1067 \times 10^9 \text{ dollars}$).

The cumulative value of the energy savings for sales of autos reported to have the **Electronic Octane®** technology installed is estimated to be \$327.6 million in constant dollars. This value was calculated using the estimate of energy savings in gallons times the average annual price of unleaded regular gasoline (we used regular unleaded gasoline for most auto brands and premium unleaded gasoline for those automobile brands having high compression engines). This value was in turn multiplied times the GNP deflator for each year to calculate the values in 1992 dollars.

The cumulative value of energy savings for sales of **Thermefficient-100®** units during the 1981 through the 1992 time period is \$97.1 million in constant 1992 dollars. This value was calculated using the annual estimate of energy savings in Btu/yr $\times 10^9$ times the average annual price of natural gas [we used the average natural gas price for commercial and industrial users (Energy Information Administration, 1993b)]. This calculation also takes into consideration the increase in hours of operation from 2000 hours/year in 1981 to 4000 hours/year in 1992. The values were multiplied times the GNP deflator for each year to calculate the values in 1992 dollars.

The value of energy savings and cost effectiveness (measured by payback period) for the three technologies is shown in Table 7.5. The value of the total cumulative energy savings for the technologies is \$531.4 million. The payback period estimates were calculated by dividing the cost of the new technology by the annual energy savings in 1992 dollars. The payback for each of these three technologies is less than five years.