

Measuring Your Impact 2

Bottled Water Versus Tap Water

A 2007 study measured the energy required to produce bottled water in the United States. In addition to the energy required to make plastic bottles from PET (polyethylene terephthalate), energy from 58 million barrels of oil was required to clean, fill, seal, label and transport the water bottles. This is 2,000 times more than the amount of energy required to produce the same amount of tap water. In some cases, transportation of water bottles was the largest component of energy use related to the bottled water. Each 1 liter bottle of water weighs 1 kg (2.2 pounds). In 2007 the population of the United States was 300 million people and, on average, each of those people consumed approximately 114 L (30 gallons) of bottled water. The average 0.6 L (20-ounce) bottle of water cost \$1.00. The average charge for municipal tap water was about \$0.0004 per liter.

- (a) Complete the following table for the year 2007. Show all calculations.

Liters of bottled water consumed in 2007	Liters of bottled water produced per barrel of oil

- (b) How much energy (in barrels of oil) would be required to produce the amount of tap water equivalent to the amount of bottled water consumed in 2007? How many liters of tap water could be produced per barrel of oil?
- (c) Compare the cost of bottled water vs. tap water per capita per year.
- (d) Identify and explain one output of the bottled water production and consumption system that could have a negative effect on the environment.
- (e) List two reasons for using tap water rather than bottled water.