

Trips to the Moon: Cremation and Energy Use in the United States

How far could you travel on the energy used to cremate people in North America in one year? *Travel*, as in trips to the moon — assuming a car getting 30 mpg; pretty good by North American standards? Would you believe ... 2,500-plus?

Of course, there's too many unknowns involved to nail down a one-size-fits all answer. But here's what we did, based on what we believe are reasonable assumptions.

The energy used to cremate people is expressed in therms, or btus of energy (one therm = 100,000 BTUs) and can range from about 12 therms to 50 therms per cremation. Our assumed average is 25 therms. (Personal communication, Steve Talley, 2001: Equipment Sales Team, Matthews Cremation, Apopka, FL 32703; (407) 886-5533 x123; stalley@matw.com.)

How much energy is this? Well, if we convert the energy in a therm to the amount of energy in a gallon of gasoline — one gallon of gasoline = 1.25 therms — we can visualize the magnitude of energy expended on all the cremations in the U.S. in 2010 — that's 1,040,923 cremations. How? By calculating how many miles you could drive on that energy in a car getting 30 mpg ... and even how many trips you could make to the moon.

How to do this? First we calculated the number of deaths in the U.S. in 2010 — given a death rate of 8.3 per thousand and a resident population of 308,745,538. Results? 2,562,588 deaths. That same year the cremation rate was roughly 40.62 percent — which means 1,040,923 people were cremated in 2010.

Next we did the math for how many therms it took for those million-plus cremations. For the really efficient cremations that take 12 therms per, it's a bit over 12 million therms: 12,491,077 in 2010, to be exact. Those inefficient cremations used 52,046,155 therms. And for our assumed average of 25 therms per cremation? That's 26,023,077 therms of energy.

Now back to our car — at 30 mpg, pretty fuel-efficient for here in the states. Recall that one therm = 100,000 btus. Gasoline is energy-dense — just one gallon puts out 125,000 btus of energy, or one and one-quarter therms. Here's how we calculated how many trips you could make to the moon.

$$\frac{\text{\# of therms in 2010}}{1.25 \text{ therms}} \times \frac{30 \text{ mpg}}{238,855 \text{ miles to the moon}} = \text{\# trips per year}$$

At the highly efficient 12 therms per cremation, that's 1,255 trips to the moon. At inefficient cremation rates of 50 therms per, that's 5,230 trips to the moon. And ticking along at an average 25 per would take you to the moon 2,615 times.

Curious how far just one lonesome cremation would propel you? 600 miles at 25 therms per — like driving from Peoria, Illinois to Okmulgee, Oklahoma; or from Abilene, Texas to Silver City, New Mexico — with 10 miles to spare. (Thank you, Rand-McNally mileage calculator).

To double-check our math, we multiplied our 600 miles per cremation times the 1,040,923 cremations in 2012 and got 643,553. 800 miles. Divide that by 238,855 miles to the moon and there you have it: 2615 trips to the moon.