

CO2 emissions from an EA-18G Growler

Ever wondered how much carbon dioxide is produced by one of those EA-18G Growlers Navy jets that have been roaring over Lopez? A friend asked me this question a couple days ago and I did the math. The results are shocking! (If you're interested in the details, I put the calculations and links to all sources here: <http://tiny.cc/growlerCO2>).

The average jet fuel consumption rate (based on typical operations patterns) of the EA-18G Growler is 1,304 gallons per hour. Combustion of jet fuel produces 9.57 kg CO₂ per gallon. The CO₂ produced is thus $9.57 \text{ kg} * 1304 \text{ gal/hour} = 12479 \text{ kg/hour}$ or about 12.5 metric tons of CO₂ per hour.

The per capita emissions in Washington state in 2011 was 10.18 metric tons per year (including all residential, commercial and industrial activities), so one hour of flight is about 23% more than the annual CO₂ emissions of a typical Washington state citizen.

Another way of looking at it is to compare to CO₂ emissions from a car. The typical passenger car found on US roads today (averaging old and new, inefficient and efficient) emits 0.423 kg CO₂ per mile. Thus, one hour of a single EA-18G Growler flight is equivalent to driving a typical car 29,500 miles. That's five round trip road trips from Anacortes to New York City with a bit left over for sightseeing. It's also about an eighth of the distance between the earth and the moon. (In a Prius, you could do almost 13 round trips from Anacortes to New York City or a third of the distance to the moon).

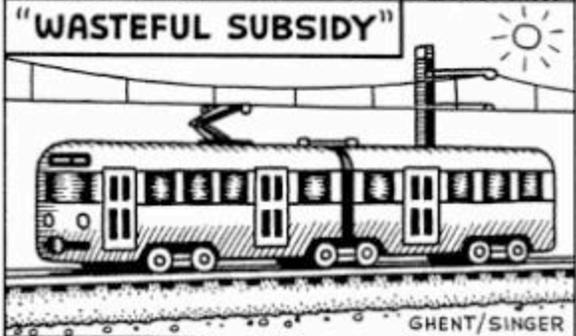
Or, we could compare one of these airplanes flying overhead to the number of cars driving simultaneously that would produce CO₂ at the same rate as a single Growler flying overhead. Let's imagine a fleet of average US passenger cars all driving the Lopez maximum speed of 45 mph. A car going 45 mph makes 19.0 kg per hour of CO₂ ($45 \text{ mph} * 0.423 \text{ kg CO}_2/\text{mile}$). A single EA-18G Growler flying overhead makes as much CO₂ as 656 average US cars driving at maximum speed on Lopez ($12479/19.0$).

I'm upset about the increased noise of these jets, as are most folks I talk to. It turns out if you care about climate change, perhaps one of the most effective things you can do is encourage the Navy to get their soldiers out of the cockpit and into flight simulators (or better, encourage a demilitarized foreign policy). Please consider writing letters or calling Senators Murray, Cantwell, and Representative Rick Larsen.

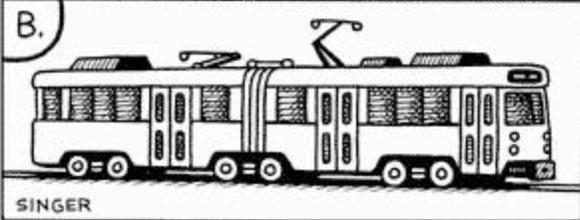
Written by: Chris Greacen, PhD



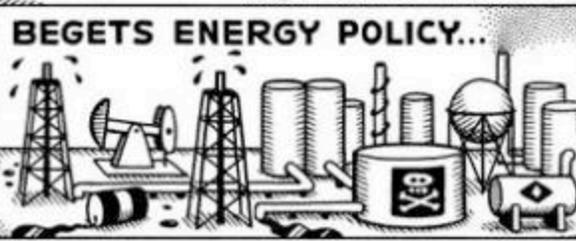
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