

What's the carbon footprint of an email?

November 26 2015, by Joshua Melvin



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A long list of seemingly harmless everyday actions contribute to emissions of carbon dioxide (CO₂) and other climate-altering greenhouse gases.

Driving a car and flipping a light switch have a clear "carbon footprint"—much less obvious is the harm caused by sending a simple [text message](#) or opening a bottle of water.

Here is the [environmental impact](#) of some common activities:

Digital footprint

Sending even a short email is estimated to add about four grammes (0.14 ounces) of CO₂ equivalent (gCO₂e) to the atmosphere.

To put this into perspective, the carbon output of hitting "send" on 65 mails is on par with driving an average-sized car a kilometre (0.6 of a mile).

The culprits are [greenhouse gases](#) produced in running the computer, server and routers but also those emitted when the equipment was manufactured.

It gets worse when you send an email with a large attachment, which puts about 50 gCO₂e into the air. Five such messages are like burning about 120 grammes (0.27 pounds) of coal.

Receiving a spam message—even if you do not open it—has an environmental impact of 0.3 gCO₂e.

The global carbon footprint from spam annually is equivalent to the greenhouse gases pumped out by 3.1 million passenger cars using 7.6 billion litres (two billion gallons) of gasoline in a year.

Here is something to keep in mind the next time you type in a non-essential Google enquiry: A web search on an energy-efficient laptop leaves a footprint of 0.2 gCO₂e. On an old desktop computer, it is 4.5 gCO₂e.



Plastic shopping bags each have a carbon footprint of 10 gCO₂e

And that text message? It comes at a cost of about 0.014 gCO₂e.

Paper or plastic?

Plastic grocery bags each have a [carbon footprint](#) of 10 gCO₂e, but the paper ones are even worse at 40 gCO₂e each.

Store-bought bottled water has nearly 1,150 times the emissions attached to it than a glass poured from the tap.

A 500-millilitre (one-pint) bottle is responsible for 160 gCO₂e compared to 0.14 gCO₂e for tap water.

A large cappuccino comes with a footprint of 235 gCO₂e, partly because of the emissions from raising the cow which produced the milk. For a cup of home-made black tea or coffee for which just enough water was boiled, the figure is 21 gCO₂e.

Leisure time



Watching two hours of tube on a 24-inch (61-centimetre) plasma screen pumps out 440 gCO₂e—about the same as driving a car for 1.6 km

The bigger the TV, the bigger the cost in greenhouse-gas emissions.

Watching two hours of tube on a 24-inch (61-centimetre) plasma screen pumps out 440 gCO₂e—about the same as driving a car for 1.6 km.

The footprint is 68 gCO₂e and 176 gCO₂e respectively for two hours watched on a 15- or a 32-inch LCD screen.

A mile of cycling fuelled by a meal of bananas would be responsible for 65 gCO₂e, compared to 260 gCO₂e for a mile powered by cheeseburgers.

SOURCES:

"How Bad Are Bananas?" by Mike Berners-Lee; Fifth Assessment Report of the UN's Intergovernmental Panel on Climate Change (IPCC); McAfee study, "Carbon Footprint of Spam".

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