THE POWER OF PRINT

Digital Ad Downsides: Add Carbon Impact to the List

Lower audience read-rate and attention span. Higher data security risk. Increasing data privacy concerns and regulation. All areas where digital advertising compares unfavorably to mail-delivered print. There's another problem with digital ads—significant carbon impact.

>8 seconds

Average attention duration for 71% of emails[1] versus 108 seconds for direct mail[2]

85%

of 2023 data breaches involved data stored in the cloud[3]

Many consumers aren't even noticing online ads.[7] Data privacy regulation is eroding digital's targeting precision.[8] And online advertising's carbon impact dwarfs that of pulp and paper's.[9] Hmm. Print-based marketing is looking better every day.

67%

of US adults turning off cookies and web tracking[4]

3.5%

of all global greenhouse gas emissions come from the digital ecosystem[5] (compared to pulp/paper's 0.6%)[6]

It seems that everyone sees digital marketing and advertising as a lower-cost, more targeted, more environmentally friendly way to reach potential customers than traditional mail-delivered print. Well, it's turning out that these perceived benefits are either rapidly disappearing or were never there in the first place.

Perhaps most surprising: the hidden, significant carbon impact of the digital ecosystem, and how much higher it is than pulp/paper and mail-delivered print.[5, 6]

DIGITAL ECOSYSTEM EMISSIONS: SIGNIFICANT AND GROWING

The digital ecosystem is the network of digital tools, resources, platforms and service providers that together deliver digital advertising to the marketplace through the internet.

The digital ecosystem is responsible for 3.5% of all greenhouse gas emissions (GHG) each year, and it's growing currently at an annual rate of 6%.[10] Just for comparison, that 3.5% is greater than civil aviation's contribution to global emissions annually.[10]

By 2025, the internet's contribution to global GHG emissions is expected to reach 7.2%,[11] 24% of which (approximately 1.76% of total emissions) will be directly attributable to digital advertising.[12] For some perspective, digital advertising's projected 1.7% of total GHG emissions compares with civil aviation's 1.9%, global shipping's 1.7% and wastewater treatment's 1.3%.[12]

Currently a typical campaign of one digital ad generates a stunning 70 tons of CO_2 equivalent emissions (CO_2e) on average.[13] The total CO_2e emissions of a typical digital advertising campaign, on average: around 323 tons.[14] Wow.

DIGITAL'S BIG HIDDEN CARBON IMPACT: A FEW EXAMPLES

Another lens for digital advertising's significant carbon impact is the sheer scale of personal data use. Data usage for the average person in the UK—transmission and cloud storage of photos and videos, emails and texts—is estimated to generate 22 metric tons of CO_2, the equivalent of 26 flights between London and New York.[15]

In the United States, the average person uses 34 gigs of data every day, generating 14 tons of CO_2.[16] By 2025, there will be an estimated 180 zettabytes (each zettabyte equals a trillion

gigabytes) of stored data in the cloud, which is the equivalent of 6.8 billion years of continuous Netflix streaming.[17]

This unimaginably huge quantity of data is collected and stored at various data centers around the world. Experts believe that data centers are now responsible for 2.5-3.7% of all human-induced CO_2 emissions—and the impact is hidden, because this source of carbon has likely not been taken into account in most if not all decarbonization policies worldwide.[18]

It turns out that digital advertising's carbon footprint is huge, much larger than most people realize.

PAPER'S UNDESERVED SUSTAINABILITY RAP

Public perception of pulp and paper's environmental impact is littered with myths, starting with the notion that refraining from paper use saves trees.

Pulp and paper, particularly when sourced in Europe and the United States, come from forests certified for long-term sustainability by authorities like the Sustainable Forestry Initiative (SFI), Forest Stewardship Council (FSC®), the Program for the Endorsement of Forestry Certification (PEFC™), and others.

Acronyms aside, the forests of Europe and the U.S. are managed like a crop, with a carefully controlled cycle of planting, growing and harvesting. The result is forests that are increasing, rather than shrinking—in Europe, for example, forests grew by 58,390 kilometers, an area larger than Switzerland, between 2005 and 2020 alone.[19] In the U.S., there are more trees today than there were 100 years ago.[20]

So the notion of saving trees by not using paper is like thinking you're saving wheat by not eating bread. It's simply not the case.

Once out of the mill, paper is among the most recycled resources on the planet. In fact, almost 70% of paper and 94% of cardboard were recycled in 2022,[21] which reduces the amount that ends up in the landfill. But there are some surprising environmental benefits of using virgin wood fiber instead of recycled.

One important benefit: When virgin wood fiber is sourced from sustainably managed forests (as the vast majority is in the U.S.[22] and Europe[23]), it slows deforestation, incentivizing owners of forest lands to continue to preserve and manage those tracts instead of selling to developers for housing and other purposes.[24]

Another is the fact that paperboard made with virgin fiber is stronger and more durable than products made with recycled content. This is especially important in food packaging—a marketing medium that digital can't compete with—where moisture resistance and durability make virgin-fiber paperboards the most promising way to reduce the use of single-use plastic, a major environmental issue today.[25]

KEEPING PRINT IN THE MARKETING MIX: A STRONG SUSTAINABILITY CASE

It turns out that digital advertising has a much larger carbon footprint than most realized, while paper-based communication has a much lower carbon impact than people think, with some surprising environmental benefits as well.

Who knew? Sustainability is yet another reason to keep paper in the marketing mix.

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