

drupa Thought Leadership



A points victory for print?

You read it more and more often: large retail chains are announcing that they are doing away with printed brochures. Their reasoning: less waste paper, less environmental impact, more sustainability. Sounds logical at first, but is it true? Is online marketing really more sustainable than print advertising? These questions cannot be answered unequivocally and there is no one-sizefits-all answer, even on closer inspection. But an approximation is possible.

There is no question that printing consumes resources: paper, energy, inks; the transportation of the printed products to the readers also plays a role. This calculation is usually presented as a CO₂ balance sheet or measured as a CO₂ footprint.

However, there is no clear evidence that the use of online media is less harmful to the environment. After all, a smartphone, reader or computer consumes electricity both during production and operation. Google alone, for example, receives 3.8 million search queries every minute. One query consumes around 0.3 watt hours of electricity. Extrapolated to 20 queries, this corresponds to the consumption of a six-watt LED lamp for one hour.

The production of hardware, hosting data on huge server farms, uploads and downloads also consume energy and resources that are not always covered by "green electricity". And what about recycling? That's also part of it, of course: What proportion of the energy and raw materials used to produce a device can be saved or recovered through recycling? How many electronic items are recycled at all?

Paper is hard to beat when it comes to recycling

In contrast, there are clear facts about paper as a medium: It is a renewable raw material. European forestry produces this raw material sustainably according to FSC or other certified cultivation methods. Paper can be managed very well in a circular economy, and this is also being done: the waste paper recycling rate in relation to total paper consumption is more than 95% in Germany, and has remained stable at just over 70% in Europe as a whole for around ten years. (1) And the use of waste paper in itself also further improves the CO₂ balance of paper.



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When it comes to electronic media, the facts are rather soft: Greenpeace has determined that global consumption of electronic hardware more than doubled between 2000 and 2015. Other sources⁽²⁾ estimate that around 50 million tons of electronic waste are generated worldwide every year. Only a very small proportion of this is consistently recycled; in the EU, the recycling rate is just under 40%. ⁽³⁾ This trend is accelerating: more and more digital devices are consuming more and more data volume, and therefore energy and resources.

Which is better: letter mailing or e-mail?

A seemingly simple question. After all, emails are purely virtual, so what environmental impact should they have? But as already mentioned, data traffic also consumes energy and resources. The Baden-Württemberg State Institute for the Environment has published an expert estimate according to which an e-mail sent causes average CO₂ emissions of around 10 grams, while a standard letter (including production, printing and dispatch) causes around 20 grams.⁽⁴⁾ A points victory for e-mail! Really?



Mailing lists are often bloated and only rarely cleared of "unsubscribers". And people who are only possibly interested in the content of an e-mail are often put on "Cc". It doesn't cost any postage, but it does cost energy. The CO₂ advantage of sending e-mails therefore quickly evaporates if the distribution lists grow to infinity or e-mails are not sent in a targeted manner. Of course, nobody wants to go back to the stagecoach age, but it certainly doesn't hurt the environment to consciously prioritize class over mass when sending e-mails.

Deutsche Post has published a study on the mail order business together with a marketing institute⁽⁵⁾. It compares the success of print mailings with that of e-mailings. The result: to generate the same number of orders, you can send 200 e-mails, which, according to the calculation previously made, cause around 2,000 grams of CO₂, or 15 advertising letters, which then emit a total of just 600 grams. So in this case, a clear point for the print product. It is also important, regardless of the sustainability aspect, that brochures, for example, continue to be used intensively as an advertising medium despite the growing digital competition, with a slight upward trend: print works!



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In the end, the answer is: it depends

Other research institutes have also come to the conclusion that printed media do not automatically have a worse environmental footprint than their digital equivalents. Arguments include the fact that a print medium only consumes resources and energy once during its production, but can be used several times. Ultimately, it depends on the specific application in terms of actual use, the materials used, transportation routes and other factors. The multiple use of digital media consumes energy each time the data is retrieved. However, one important insight is that there are no automatisms and that print can be a sustainable component of communication, clearly on a par with online communication.

Print production continuously increases its energy efficiency

In addition, time is not standing still in the printing industry and both machine manufacturers and print shops have long since focused on sustainability. Lower energy consumption not only contributes to a better environmental balance, but also to lower operating costs. "Sustainability and energy efficiency are now



decisive competitive and cost factors for suppliers in the print media industry - this applies equally to our customers and to HEIDELBERG as a company," says Dr. Ludwin Monz, CEO at HEIDELBERG. Innovations are therefore increasingly aimed at reducing Scope 3 emissions on the user side, as these represent the greatest lever for reducing HEIDELBERG's overall CO₂ footprint. Just one example of many is the comparison of a Speedmaster CD 102-6+L from 1990 with the current Speedmaster XL 106-6+L: energy consumption per 1,000 sheets has been reduced by 40 percent from 13.8 kWh to 8 kWh thanks to continuous innovations and system improvements. HEIDELBERG is also aiming to be climate-neutral at its sites (Scope 1+2) by 2030 and to offset unavoidable emissions. By 2040, HEIDELBERG (Scope 1+2) then aims to achieve climate neutrality without offsetting measures. The company's vision is to have the smallest ecological footprint in the industry along the entire value chain.