Le Mémo – Episode 20

Digital: a solution or accelerator of climate change?

— Joe :

Out of his environmental concerns Danny Van Kooten, a Dutch web developer, chose to stop eating beef and travelling by plane. But a few months ago, he took a different decision which has a much larger impact on his energy footprint. Van Kooten is the creator of a popular plugin for Wordpress, the back office commonly used to manage and administer websites. This plugin allows internet users to subscribe to a newsletter using a simple online form. It's convenient- but it also weighs down the site. Every time a user visits a page, the server sends back thousands of lines of code to the user's browser that corresponds to the plug-in. Danny Van Kooten decided to simplify it, reducing that code by 20kb.

20kb doesn't seem like much- it's the equivalent of about 1300 words of a word processor document. But multiplied by 2 million sites, it's enormous. This is all according to a Wired article. In it, Danny Van Kooten says this spring cleaning amounts to a reduction of 59,000kg of carbon dioxide a month- the equivalent of 170 Amsterdam-New York flights.

— Chloé:

Not bad, for only two hours coding.

— Joe :

And so much easier than you might think! Van Kooten is not alone. According to Wired, he's part of a growing movement of web designers engaged in keeping an eye on the impact of every line of code on our planet.

[Jingle]

— Joe :

Hello Chloé.

— Chloé :

Hello Joe.

— Joe :

Welcome to this new episode of the Memo, the podcast deciphering digital news.

It's now a given that digital technology takes up ever more space in our lives, allowing for more and more uses. But these tools have a big impact on the environment. First, there's the environmental cost of their manufacture. Secondly, they consume energy throughout their lifecycle. But then again, you can also use digital tools to measure pollution, adapt and optimise our behaviour and better predict their impact- even through basic activism on social media! In short, the fight against climate change is also undergoing a digital transformation. But then Chloé, can digital technology really become part of the solution to our environmental challenges?

— Chloé :

It's an interesting- and complex- question that is generating a lot of ink at the moment in the media. Or should we say: Heating keyboards. Let's talk about this environmental cost you mentioned. Le Monde Diplomatique recently headlined with "Digital technology fuelled by carbon." In the article, I read that "according to 2 recent reports [the digital economy] represents more than 4% of primary energy consumption around the world and this consumption is growing by 9% every year, as emerging countries are equipping themselves and uses are diversifying." There's no denying it: The impact on the environment of digital technology is growing.

— Joe :

We often talk about the virtual and immaterial, but their impacts are definitely concrete. I was just thinking of one example- Bitcoin. A virtual currency that also happens to consume a lot of energy in the real world.

— Chloé :

Yes, and if we look at what Wired magazine is saying, the cryptocurrency invented in 2008 emits the equivalent of the annual carbon emissions of Jordan or Sri Lanka.

— Joe :

Many articles have decried the use of Bitcoin for this reason.

- Chloé :

George Kamiya, from the International Energy Agency, underlined this in a podcast with US magazine Resources. He said that Bitcoin is a product that emerged quickly- in just a few years- and suddenly consumes 0.2 to 0.3% of the world's electricity.

All the same, it is really difficult to predict how the use of ICT will evolve over the next 10 to 20 years. Kamiya advises companies working on cryptocurrencies to invest in R&D to improve the energy footprint of these new technologies because demand will only continue to increase.

— Joe :

I also read that the huge fires linked to global warming which ravaged California recently have been inspiring strong commitments from the Silicon Valley tech giants, who are all located in the region.

— Chloé :

That's from Les Numeriques, an online magazine dedicated to tech product testing, who outlined Facebook and Google's intentions… Both aim for carbon neutrality by 2030, including their suppliers. And from this year, they say Facebook is aiming to reduce its greenhouse gas emissions by 75%.

— Joe :

These big engagements are obviously important, but change can also be done on a more local scale as we've seen with the case of Danny Van Kooten and his plug-in.

— Chloé :

What stood out for me in the Wired article is that we too can reduce our digital energy footprints. By sharing lower definition photos on Instagram for example, or by simply sending fewer emails. One study based on data from Lancaster University shows that if every adult in the UK sent one less email per day (for example saying thank you or even just acknowledging receipt) 16 tonnes of CO_2 could be saved a year.

— Joe :

16 tonnes… Noted. If I don't reply to your next email, now you know why. But, I imagine that it's not the only method.

— Chloé :

The Plunge Daily, an online Indian magazine, showed how technology at a local level can also be of benefit in the fight against CO_2 emissions and pollution. I read there that the Delhi government is going to launch an app allowing users to report litter fires within seconds.

— Joe :

Much has been said about the energy consumption of digital tools. But the environmental impact of, let's say a smartphone, does not just come from its daily electrical consumption but rather from its manufacture.

— Chloé :

Yes, according to Eric Drezet, engineer and researcher at the CNRS, quoted on the blog Binaire du Monde, manufacturing even represents around 90% of all energy consumption. UNEP, the United Nations Environment Program, estimates that the use of materials such as metal or non-metallic minerals required for the manufacture of smartphones and other devices will double between 2011 and 2060.That is why Eric Drezet wants us to realise that- quote- "happiness does not lie in frenzied consumption." We should "move away from short-lived products in favour of more durable, environmentally friendly products."

— Joe :

Solutions already exist: Anti waste-applications, eco-friendly smartphones… But also the recycling of memory cards and old handsets.

— Chloé :

Recycling is clearly one of the solutions, but there is still some way to go. I am referring to the speech of the Vice-President of the European Commission in charge of Foresight and Inter-Institutional Relations during the launch of the European Alliance on Raw Materials last September. The aim is to recover rare metals found in digital equipment that is no longer in use. This is what he says "Every year the EU produces some 9.9 million tonnes of electronic equipment and electrical waste." Except that about 30% of them are collected and recycled. The rest is either thrown away or abandoned at the back of a cupboard.

— Joe :

And I imagine that in France the situation is the same?

— Chloé :

I read in the midday dispatch that there are about 100 million phones that are currently abandoned, broken or unused... that's the reason operators like Orange, which is quoted in the same article, are committed to encourage consumers, whether they are customers or not, to put their old phones in dedicated collection bins so they can be recycled.

— Joe :

One of the other trends is reconditioning. Instead of breaking down older models into separate components, like for example my old mobile telephone, I could sell it back to be refurbished with parts from other handsets so it can be resold, but for a lower price.

— Chloé :

There are an estimated 5 to 10 million phones refurbished in France every year. Or about 1 in 10 smartphones, according to France Info. If companies innovating to make the digital world more sustainable are no longer in the minority, there are still too few of them. That's what I read on AOC, the daily analysis blog. According to Eric Vidalenc, a researcher at ADEME, the agency for ecological transition and author of the essay *For a Digital Ecology*, what's missing above all is transparency. Quote: "It is more than paradoxical that, in the world of systemic data processing of the slightest actions and actions of each person, we are not able to fully "trace" the environmental weight of our smartphones and their usage.

— Joe :

In short, we should try and understand the material impact of "dematerialisation" better! Thank you Chloé and thank you to all our listeners. Please feel free to subscribe on your favourite platform and if you liked it, feel free to share this episode. See you soon for the next issue of the Memo!

Sources :

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