Within modern climate circles, the topic of accountability comes up semi-often in common discourse. The question of where the causes of ecological harm are most prevalent, and how best to approach solutions to the problems that they bring. What are the most impactful systems to bring change to? Personally, I would say that the question is more personal to the individual as an activist as opposed to as a collective. Within in an entire society dedicated towards profit through waste, the problems are in a constant state of circulation. It can be quite overwhelming to take all at once, and because the movement isn’t a monolith, it makes best sense for efforts to divide to where skills are best implemented. So, we come to the question I give to myself, out of all industries, cycles of harm, and hot button issues, why do I choose energy? The obvious first step is that my skills best align with it. My expertise is in philosophy and coding, giving me a natural insight into the inner workings of energy use within the context of energy waste within the context of digital infrastructure. My edge isn’t just in being able to introduce theory, or write software, but intersect the two in my work. Apparatus and action are both necessary, but the pairing of both in the same individual work is something that not many always have access to. This reasoning brings the resulting methodology of this site, to be both a repository for information on the relevant issues and give a clear example of action combating them.

A common misconception with the metaphysical status of the internet is an assumption of immateriality. In the typical idea, the internet exists in cyberspace, achieving some kind of higher ascension beyond the wires and routers that it runs on. Despite viewing the internet through a screen, the physical screen itself is perhaps the part that we’re the least cognizant of when we’re browsing. When accessing the internet, we don’t see the energy or material that it’s using to present itself to us, but rather the information being presented. Almost as if we see it in the same abstract as we do language, as a form of conceptual communication as visual media is often interpreted.

This is a false perception of the digital. Digital infrastructure is not immaterial, nor is it superfluous to the existence of the digital. The physical structures that allow us to transmit data are deeply critical, and the fact that we don’t consider them in our common understanding of the internet creates an inaccuracy to the benefit of corporate consumption. [There’s even a materiality to digital bits themselves that is almost always disregarded](https://onlinelibrary.wiley.com/doi/abs/10.1002/asi.21542) (Blanchette, 2011). With this in mind, if you pay attention, [you can see the architecture of our world that forms the bedrock of the digital](http://seeingnetworks.in/) (Burrington, 2016). Awareness of the materiality of the digital is an integral step in addressing the problems created by it.

So, what exactly *is* the situation with energy waste and digital infrastructure? Well, for one, digitality contributes to strong percentage of our energy usage. [It’s been thought that by 2025, up to one fifth of the world’s electricity could be dedicated entirely towards data infrastructure](https://www.theguardian.com/environment/2017/dec/11/tsunami-of-data-could-consume-fifth-global-electricity-by-2025) (2017). [The internet consumes a lot of power](https://www.forbes.com/sites/christopherhelman/2016/06/28/how-much-electricity-does-it-take-to-run-the-internet/?sh=139c0e1b1fff) (Helman, 2016), and the data centers hosting it are only becoming larger, requiring more and more power to operate. Meanwhile, the various devices sold to the public for the sake of connecting to the internet take up an equally noticeable importance, requiring precious metals (often acquired by exploitative practice as we’ll see later) that contribute further to waste through mining. As of 2016, [Roughly 3.4 Billion people have been online](https://ourworldindata.org/grapher/number-of-internet-users-by-country?tab=chart&time=1990..2016&country=~OWID_WRL) (Roser & Ortiz-Ospina, 2015), necessitating access to some sort of digital device for every single one of them. There’s a real impact to that.

From here, we can consider just how much energy goes into keeping up that infrastructure. That’s part of what I’d like to illuminate here—that energy usage and the digital are inextricably linked, and to deal with one, we’ll have to deal with the other in some capacity.

As a result of that usage, there’s also an aspect of social injustice in need of observance. [There is racial and class disparity along lines of access to and pricing for electricity](https://energynews.us/2020/07/01/racial-disparities-persist-in-electric-service-is-willful-blindness-to-blame/). Oftentimes, there is a stratification that is consistently swept under the rug within the power industry, and an unjust marginalization that is often conveniently obfuscated in favor of typical profit motives. “While it has long been known that Black and other minority customers are more likely to face service disconnections and higher bills due to inefficient housing, Ohio regulators are not taking significant steps to address those disparities — largely because they’re not looking for them. Utilities say they enforce policies against racial and ethnic discrimination, but few are collecting data that could reveal whether those policies are unintentionally creating or widening disparities for communities of color” (Kowalski, 2020).

There’s also a great injustice that goes into the manufacturing of digital devices required to keep infrastructure afloat. Within digital production and infrastructure, a resource like coltan is extremely important, which has a [history of violence associated with the monopolization of its mines](https://www.researchgate.net/publication/227715828_Improvisational_economies_Coltan_production_in_the_eastern_Congo). “Citibank and other corporations have negotiated directly with the ruthless occupants of the eastern Congo, notably with the RCD, who forced people to mine and plundered their villages. In other words, our demand for this product; indeed, the entire hope, promise and success of our digital age, has occurred (as it did during the transatlantic slave trade, interestingly also with much ‘labour’ from the Congo) on the backs of somewhat discerning exploitative production and circulation systems in Africa engineered by affluent nations” (Mantz, 2008, p. 42).

In light of these injustices, it should be clear that the systems of energy production are in need of radical change. This brings me to my philosophy for both the site, and the Waste Tracker. When attempting to make changes to a system of digital infrastructure or power, two popular choices generally end up being between pressuring industries to change their practices, or mitigating usage on a consumer end. Because I chose the latter with my software, which naturally puts pressure on the consumer end of the system as opposed to the production end, I should make a few things clear. The consumer is *not* the direct responsible party for the injustices done in the name of producing for them—that’s on the producer first and foremost. It’s through making this clear right here that I can partially address both forms of action. I want the Waste Tracker to be a clear first example in terms of what can be done from a perspective of software design, but I want the website to be an example of raising awareness to pressure the industry. Through the essay here, I can emphasize the causes of these problems beyond the typical pitch of the average joe using too much energy on their MacBook and needing to turn it off more often. As such, I am attempting to influence two sides of the same system. The Waste Tracker keeps record of idle time where electricity is used where it may be needless. Within the system, it’s meant to curb excess, which is all too plentiful in our current framework. Meanwhile, the website itself serves to raise awareness towards the ills of production. The access to literary resources, along with this essay itself, should be capable of shining a light on the parts of the system in need of better understanding, and eventually change.

Ultimately, this is only a starting point. The application itself still needs to be further developed, and one essay on a website isn’t going to bring awareness to the masses. But the software can be updated, and the website can have more added to it. As long as it can make even the slightest change, it’ll have been worth the work.

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