

TRANSCRIPT

How Our Clicks Cost the Planet: The Internet, Climate Change, and Human Rights (with Michael Oghia)

Kira Allmann (00:12): Welcome to RightsUp. I'm Kira Allmann. In this episode I'm talking to Michael Oghia, a global consultant on Internet governance, about the environmental impact of the Internet.

Here in the UK we are just emerging from months of a national lockdown to try to quell the spread of the coronavirus. As other episodes in our Covid-19 series have addressed, these conditions of immobility and containment have forced huge portions of our lives online, from education to work, with important human rights ramifications. But there's an argument to be made that the Covid-19 lockdown has been good for the environment. Since many of us haven't been spending much time outdoors or travelling long distances, there have been reports of lower levels of littering and urban pollution. As humans withdrew from public spaces, some native wildlife has reemerged. Basically, there are signs that lockdown and our decreased mobility has been a real win for nature. But our newly intensified online routines, from video conferencing to binge-watching Netflix, might have more of a negative environmental impact than we realise. According to a March report by the BBC on why our Internet habits might not be as clean as we think, the Internet and the systems that support it are responsible for 3.7% of global greenhouse gas emissions.¹ That's roughly the same as the airline industry. It's estimated that the typical professional creates 135 kilogrammes of CO2 just sending emails — which is equivalent to driving 200 miles in a family car. And watching online videos, which accounts for most of the world's Internet traffic, produces 300 million tonnes of CO2 a year — about 1% of global emissions.

And we know that climate change and human rights are closely linked. The Office of the High Commissioner for Human Rights says that “[c]limate change threatens the effective enjoyment of a range of human rights including those to life, water and sanitation, food, health, housing, self-determination, culture and development”.² The relationship works the other way around too. Many environmentally harmful practices are also contingent on human rights abuses, such as exploitative working conditions and manufacturing processes for consumer goods.

The thing is, we don't often think about where the Internet fits into this complex relationship between humans and the natural environment. And that's why I'm here to speak with Michael Oghia, who's a Belgrade-based consultant, researcher and editor, working within the Internet governance and media development ecosystems. He is the Advocacy and Engagement Manager for the Global Forum for Media Development and his work specifically focuses on access, capacity building, digital rights, infrastructure and sustainability. He is also currently serving on the Steering Committee of the Internet

¹ Sarah Griffiths. “Why your internet habits are not as clean as you think” BBC (6 March 2020), available at <https://www.bbc.com/future/article/20200305-why-your-internet-habits-are-not-as-clean-as-you-think>

² “OHCHR and climate change”, available at <https://www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/HRClimateChangeIndex.aspx>.

Rights and Principles Coalition, the IRPC.³ So, thank you so much, Michael, for joining me to talk about the Internet and climate change.

So I'll just get right into the questions. I think that when a lot of people think about the Internet and its relationship to the environment, they probably think mostly about how the coming of the "digital age" brought the potential to reduce our environmental impact in some key ways. For instance, going paperless and reducing the need to travel. And now, during this global coronavirus pandemic, we have turned to the Internet to facilitate interactions that used to occur in person and burn many airmiles. So, maybe we're seeing that potential playing out now. But when *you* talk about the environmental impact of the Internet, you're viewing it in a different way, right? So what are you referring to there, Michael?

Michael Oghia (04:13): Well, that's great, Kira, because here's the thing. Indeed, you know, by not cutting down trees because we want to save paper, that is a great endeavour and that's something that I'm not necessarily advocating against. But what we don't take into account is that everything that we do in the 21st century, and just basically at any time, it requires energy, and so to cut down trees and then to turn that— and to convert that into paper, that takes energy. But also going to a search engine and searching for whatever you want, that takes energy. Manufacturing a smartphone, takes energy, it takes minerals, it— from, you know, from the ground to create those devices. So even though we don't see past the clicks or we don't see past the devices, there is an entire infrastructure behind the Internet that is essentially being powered by fossil fuels, by, oftentimes, conflict labour — especially when we consider the minerals that go into, let's say, smartphones. And basically my entire point is that, of course there are positive implications, especially for development, when it comes to ICTs [Information and Communication Technologies]. But what I really hope to address are the massive policy gaps that fall under the wider umbrella of sustainability. And especially the one that I keep repeating often, often over and over, is that we cannot legitimately discuss Internet access without addressing sustainability.

Kira Allmann (06:00): Let's just unpack a bit more what you mean when you say that the Internet and associated technologies use energy. There are a lot of levels at which energy is a factor. For example, there's data storage and transit, which requires infrastructure like cables and data centres. There's also the production of electronic equipment. There's the use of that equipment when I plug my phone into charge, for instance. So, can you talk a bit more about where, on these many levels, the energy consumption associated with the Internet is coming from?

Michael Oghia (06:33): Absolutely, Kira, and like I said, whenever— All of the infrastructure behind the Internet, it's powered, not just, you know— it takes energy and where does— where's most of that energy being used? It's being used in data centres. And oftentimes, especially, you know, when you make a request, let's say to Google or something like that, depending on where you are, it sends that request to a data centre and then it's sent ... to a server that's located in a data centre, and then that information is sent back to you. Well that takes energy. But then— And if you're doing that for just one person, it's not— that's absolutely negligible. But if you're doing that at a scale that we have now with the Internet, with all of the devices that exist, with all of the individuals that are connected to the Internet, that massive— that really adds up.

³ Internet Rights and Principles Coalition, available at <https://internetrightsandprinciples.org>

Already, global ICT electricity use is growing and it's currently about 10% of global electricity use, which amounts to about 2 to 3% of all global greenhouse gas emissions. It's not just about data centres, although there are a massive... they are very much a massive user of power, of sorry, of electricity. It's also, as you said, it's the electricity that our devices use, it's the energy that's used for transit, because it's not just the servers at a data centre are being— you know, use energy to be powered, it's also, energy is used to transmit data through the fibre optics, or through the copper cables, or wherever, between one point to another. That takes electricity. And as we've seen, over and over, data usage is rising. So, I can definitely say that, although energy efficiency is rising — which is true — the amount of data being produced day after day, year after year, is also rising exponentially.

The relationship between energy and Internet is clear, yet well over 1 billion people still lack access to reliable energy, full stop. And only about half of the world's people, in total, are connected to the Internet. So, I mean, whenever we're thinking about bringing the next billion people online, what we're not thinking about is, "Okay, so those billion people, we want them to get connected to Facebook, we want them to be connected to Netflix, we want them to connect to their families via Skype, or we want them to connect to health services or mobile banking, that is going to end up using a lot of energy as well", and that's something that we are not currently factoring into — “we” being the people in the Internet ecosystem — are not really fully factoring into the design of networks going forward, we're not factoring in that into, you know, how we build the infrastructure that's powering the Internet.

One of my bigger points, in general, one of my bigger issues with this entire process, is that energy and sustainability should consistently be part of our conversations. We should not look back and address sustainability in retrospect, it should be integrated into the core of our work — “our” being anyone working within the Internet ecosystem — but also especially public policy. And it should be— and sustainability should be considered a basic requirement, whether that be at the manufacturing level, at the mining level (if that's even possible), at the— or rather, not just mining but resource extraction, at the consumer level — there is definitely a consumer area here to address as well: sustainable production and sustainable consumption. And of course, something I haven't even mentioned yet is how we address electronic waste, all of the— this linear production cycle and this linear consumption cycle that we have for, whether it be devices or fibre that we put into the ground, or the servers that we store our data on. You know, we sh[ould]— this should have much greater considerations for sustainability, because we all have a role to play in protecting the environment and, currently, we are really lacking in this, especially when it comes to ICT sustainability.

Kira Allmann (11:06): What about planned obsolescence? This is the idea that technologies we use to connect to the Internet, like our phones and laptops, are kind of programmed to have finite lifespans so that we buy more of them rather than patching them up and using old models. But if we're constantly disposing of our old devices, that must have something to do with this issue, too, right?

Michael Oghia (11:27): So, gosh, Kira, you're bringing up so many wonderful points here. So there's a couple of things that I want to bring in. One, is that, yes, you mentioned— I mentioned e-waste, you addressed it just now as well. One of the things about ICT sustainability that even a lot of people working in the Internet ecosystem, who do care about this, might overlook, is the relationship between

sustainability and human rights. Now, why do I bring this up as it relates to e-waste? If, let's— the thing about electronic waste is that a lot of the electronic waste that's generated is not disposed of or recycled properly. I remember a UN report came out in 2017 that found that, something along the lines of ... I think the figure, exact figure is 65 billion dollar's worth of recyclable e-waste was lost in 2016.⁴ And a lot of e-waste, and the reason why I bring rights into this, is because a lot of e-waste is then dumped, oftentimes in the Global South, in economies where the— what's called— I think it's the “grey areas” or “grey sectors” of the economy is where, you know, people are doing things that are obviously hazardous for their health, but it's not necessarily illegal per se, but it's definitely exploitative, and it often involves, for instance, child labour. We see this throughout Sub-Saharan Africa, we see this in India, where children are essentially pulling apart parts of phones and VCRs, and TVs and all these other devices that have been dumped, often from the Global North (the US, Canada, the EU, Russia), just being dumped in China, India, throughout Africa, and this is really creating massive problems, massive health problems, massive environmental issues.

And another issue that I mentioned before is conflict minerals. Throughout the Democratic Republic of Congo, for instance, there are so many mines that are being illegally operated by warring parties in their civil war, that are using forced labour in order to extract minerals that are then being used by companies to create all of these devices that we use. Now, a lot of the major companies, they say, “Well, we're trying to monitor our supply chains” and, fair, they are working toward that, but they need to do more. And like I said, when you're making billions of dollars a year, “Oops” is not a good enough answer. We are creating all these devices, but we're not creating the infrastructure to adequately address how we see it through its end of life.

Kira Allmann (14:24): It's an interesting point you make about the human rights implications of this issue, and I do want to return to that, but first, I'd like to ask you about the rise in climate change activism in recent years. We've arguably seen more attention focused on climate change with movements like Extinction Rebellion. We think more about recycling and air travel and things like that, but Information and Communication Technologies aren't usually on the radar. Why do you think this isn't a bigger part of the discussion?

Michael Oghia (14:54): Well, I think it's not part of the conversation for a few reasons. One, is just simple ignorance. I think most people think, “Oh, you know, okay, I charge my phone every night, but, come on, how much energy is that using?” So, one, it's a minimal— One is ignorance. Two is, I think, minimalisation of an individual's own impact. But number three is also that a lot of the— a lot of the problems are coming at the resource extraction, production and the service provision levels. So it's coming, not necessarily from a consumer level, which— I'm not to say that consumers should be off the hook, but, they absolutely should be responsible for what they buy, for what they consume — but there's a lot happening, let's say, outside of the public domain. Definitely. And I think in a lot of ways, policymakers are not... either not interested, or maybe they're just not educated, about why this is important, why this is continuing to grow. Let's not forget, Kira, that the Internet is such a new technology. I mean, this— although electronics have been around for decades, of course, I mean, the Internet as we know it has only really taken off in, let's say, the 1990s, so it's a relatively new problem.

⁴ International Telecommunication Union, “Global E-waste Monitor 2017”, available at <https://www.itu.int/en/ITU-D/Climate-Change/Pages/Global-E-waste-Monitor-2017.aspx>

And, you know, like I said, most people don't necessarily consider themselves to be contributing to it the way that, you know, let's say an airplane is very obviously emitting carbon. And I think also, Kira, we're dealing with so many issues at once. It's like, the door is open and thousands of issues are all pouring out, you know, we— it's— I think there's a lot of fatigue in this, it's like, "Oh, you know, don't tell me another element of my life is also damaging for the Earth or for the environment". But, that's the thing about not seeing things as holistically as we should, is that, unfortunately, you know, these— everything's connected.

Kira Allmann (16:51): You mentioned the connection between this issue and human rights earlier, and I want to go back to that. You talked about human rights issues that are implicated in the material reality of the Internet, things like conflict minerals and the processing of e-waste. But what about the debate around a human right to Internet access? There's a growing recognition that Internet access is not a luxury, it's a necessity, but what perspective should we take on a "right to connectivity" if we're also taking on board these issues you've raised about sustainability?

Michael Oghia (17:22): Absolutely, and thank you for this, because— But, the way that I would start by addressing this is not just from the larger concept of "Does everyone have the right to connect?" or "Does everyone have the right to Internet access?" etc. It's more that, "Okay, so here I am, I'm in a rural or remote area, and I'm not connected to the Internet. What— the better question to ask is — what steps do I need to take in order for me to be sustainably connected to the Internet and in a way that can actually mitigate some of these problems that we described?" And one of the best communities that I would say is— that— who is really at the forefront answering these questions are— is the com[munity]— are those individuals that are, and those organisations, that are working with what's called "community networks". Because community networks are really— are set up to be self-determined, to be bottom-up, really inclusive. And, a lot of times community networks are working in places where they don't necessarily even have connection to an energy grid, which means in order to provide connectivity to, let's say, a population that is not already connected to the Internet, they have to have— they actually have to set up energy for that community, you know, full stop.

So, I would say it's really important to consider even, you know, even beyond the concept of "Does everyone have the right to be connected?" — because I do agree with that — but at the same time we have to consider, well, are those— is the issue of Internet access also fitting into larger development problems, which is, for instance, like I said, the lack of electricity, the lack of access to a sustainable market, or something like that? And the fact is, getting a very basic weather report on a very basic smartphone is very different qualitatively from watching ten hour[s] ... or from binge-watching ten hours of high-definition content on Netflix.

Kira Allmann (19:36): It sounds like you're saying that we can't bring the next billion people online doing the same things that we're all doing online. So equal access, at least the way access looks today, isn't really sustainable access.

Michael Oghia (19:49): Yes, basi[cally], that is absolutely true. Now, I mean, that— and to be frank, that echoes much wider discussions, especially within the development community, about how— about, you know, sustainable development writ large. And so, unfortunately, if everybody consumed the way

that individuals in developed countries, especially those in the Global North do, we simply don't have enough Earth to, you know, provide for those kinds of resources that are needed. So, it does take self-reflection, it takes real impetus on the— you know, on both those who are already connected as well as those who are working to connect, to make sure that we can do that in a sustainable way. And whenever we talk about sustainability, not just "greenwash" what sustainability means, but really make sure that, from the moment that we are devising how to connect individuals or the technologies that we will need to use those, to even the skills that are needed and the languages — or the kind of content that is needed in local languages — to ensure that those individuals stay online, we have to think about that holistically because, otherwise, we are going to end up potentially with much bigger problems than what we already have.

Kira Allmann (21:11): Who else is out there working on these issues? Are there any shoutouts that you'd like to give to people or organisations, tackling these issues in meaningful ways?

Michael Oghia (21:19): One of the reasons why I say this is such a good discussion for the Internet governance community is because one of the defining aspects, or elements, of Internet governance is that it's multi-stakeholder. And the only way we're going to be able to address these massive issues is if we address it in a holistic and multi-stakeholder way. So who is it doing these things?

Well, first of all, one of the first groups that comes to mind is Greenpeace. Gary Cook over at Greenpeace [is] really doing such an incredible job at monitoring, especially platforms and companies', usage of energy, where are they getting their energy from, they're auditing them, they're really doing great work.⁵ Some friends of mine over at a group called ClimateAction.tech,⁶ they are doing a lot of work, especially more in the software space, to see how they can cut down on emissions and make, you know, make the Internet more sustainable and more green. That is also— there's also The Green Web Foundation,⁷ which ... was started by the same people. Chris Adams is a guy that I really want to highlight here, he's doing incredible work throughout Europe and beyond to really make the Internet more sustainable. But those are just a few. The Internet Rights and Principles Coalition within the Internet Governance Forum⁸ are doing a lot of work to prioritise these kinds of discussions, to make sure that ICT sustainability is on the agenda of Internet governance. Different companies, different Internet providers— Internet service providers are very much committed to sustainability. I mean, that includes Google, Etsy, Facebook even. So, you know, again, give credit where it's due there. And, people like Mike Hazas from Lancaster University.⁹ I mean, an entire group of people in the ICT sustainability and lifecycle assessment communities, they're doing a lot of work to make— to see how ICTs can become more sustainable, what can we do to reduce the footprint, but I— my biggest fear is that we're not moving fast enough, we're not moving fast enough to make the Internet more sustainable as the Internet is growing, in terms of data use and users, full stop.

⁵ "Gary Cook", *Greenpeace*, available at <https://www.greenpeace.org/usa/bios/gary-cook/>

⁶ ClimateAction.tech, available at <https://climateaction.tech>

⁷ The Green Web Foundation, available at <https://www.thegreenwebfoundation.org>

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⁹ "Dr Mike Hazas", *Lancaster University*, available at <http://www.research.lancs.ac.uk/portal/en/people/Mike-Hazas>

Kira Allmann (23:44): I feel like it can be a little overwhelming when our lives are so digitised now to wrap our heads around the changes we would have to make in our everyday lifestyles to be more sustainable. What would you say we can do in that regard?

Michael Oghia (23:58): Yeah, so, that's a great question. And of course, I do understand— If anybody's listening to this and thinking to themselves, "Oh my god, what am I doing? Or like, how— what can I do about this?" First of all, don't feel guilty, don't take it on yourself. It's incumbent on ourselves to do as much as we can in our own personal lives, but recognise that individual action is not enough. So what do we do?

At the individual level, one of the simplest things that you can do is stop replacing your smartphone every year or every two years, especially now, they, you know, smartphones are made in such a way that they are very, very durable. They, you know, they are faster than they used to be and they don't really need to be replaced so often, so...

Petition local authorities, or state authorities, or federal authorities, to support the right to repair. You know, oftentimes for instance you'll hear that warranties will be voided if you try to fix your phone yourself. That is completely unethical. It's— If you've bought this device, it is your's to maintain as you wish, and so that's one other thing you can do.

Number three is ensure that when you do have to dispose of electronics, please dispose of it responsibly. And oftentimes there is a municipal e-waste provi[der]...you know, recycler, in your city or in your state. So, there are things to do.

And I really, really challenge everyone: don't just dig your— put your head in the sand about this and pretend like it's not a problem because it's only going to get worse over time, but we can really contribute to making it better. The challenges ahead of us are immense but what is really important is that we continue to prioritise these issues, that we really need to do more to educate people, to raise their awareness and to not just say, "simple fixes here and there are going to do it". You know, there are little things that we can do, like switching to a more sustainable web provider, such as Greenhost, or switching to a more sustainable, let's say, search engine. But then there are really things that we need to be doing, especially at the lobbying and advocacy stages, to make sure that Samsung is, you know, they're getting their components from sustainable sources and from conflict-free sources, supporting groups like Fairphone¹⁰ that are trying to create smartphones that are not just trying to overcome planned obsolescence. You know, Fairphone's doing that to make their phones more modular and more sustainable over time. So, there are people out there that are working on it on so many different levels, but we really need more support. We need more support, especially at the policy level.

Kira Allmann (27:03): Thank you so much for joining me, Michael. This has been a great call to action and a provocation on an issue that we really don't spend enough time thinking about.

¹⁰ Fairphone, available at <https://www.fairphone.com/en/>

Michael Oghia (27:11): And I appreciate everyone for taking part in this conversation and listening, and thank you so much as well, Kira, for having me on the show.

Kira Allmann (27:29): RightsUp is brought to you by the Oxford Human Rights Hub. This episode was produced, edited and hosted by me, Kira Allmann. Music for this series is by Rosemary Allmann. Show Notes for this episode have been written by Sarah Dobbie. Thanks to our production team members, Christy Callaway-Gale, Gauri Pillai, Mónica Arango Olaya and Natasha Holcroft-Emmess for their valuable feedback in putting this episode together. Subscribe to this podcast wherever you like to listen to your favourite podcasts.