



▼ **At the confluence of digital rights and climate & environmental justice:**
A landscape review



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This research report, based on research conducted by The Engine Room from October 2021 to April 2022, is part of a larger body of work around the intersection of digital rights with environmental and climate justice, supported by the Ford Foundation, Ariadne and Mozilla Foundation. This research project aims at better equipping digital rights funders to craft grantmaking strategies that maximise impact on these issues.

This report was published alongside several publications, including issue briefs by Association for Progressive Communications (APC), BSR, and the Open Environmental Data Project and Open Climate. All publications can be found at <https://engn.it/climatejusticedigitalrights>

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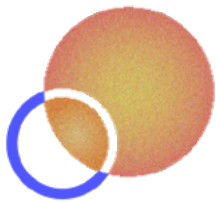
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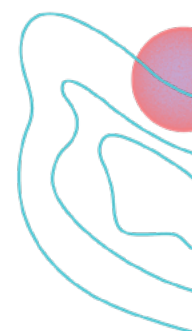
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Introduction

As the effects of the ongoing climate emergency amplify, the fight for environmental & climate justice has become more crucial than ever. While **technology is being used to support these efforts, it can also be part of the problem:** technological innovation is taking an environmental toll, climate justice activists face increasing digital attacks, social media platforms are full of unfounded claims about climate change, and many of the communities affected the most by the climate emergency continue to lack basic access to digital resources that are needed to adapt to, and mitigate effects of, the climate crisis – from internet access to reliable online information in their own language and cultural context.

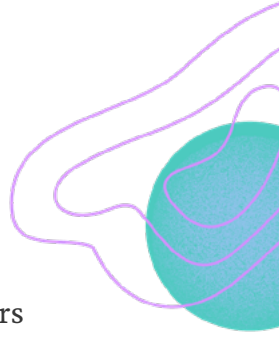
With all this in mind, it is clear that an exploration of the **intersections** between environmental/climate justice (EJ-CJ) and digital rights (DR) movements – with an eye on identifying **opportunities for collaboration and support** – could help both sectors achieve their respective goals.

Acknowledging the importance of digital rights participation in environmental/climate issues, a feminist activist working at intersections of EJ and DR told us: “The space is big, the needs are huge. The knowledge that digital rights movements have is crucial right now.”⁰¹ At the same time, a climate activist pushes EJ-CJ and DR movements and communities to “know your own bubble. Go in with an open mind about the limits of your own worldview.”⁰²

The aim of this report is to provide a **landscape scan** of how an extremely diverse set of communities and movements are working at intersections of technology, digital rights, environmental justice and climate justice. The report’s primary audiences are **grantmakers and practitioners working in or adjacent to the digital** rights sector interested in understanding how to centre EJ-CJ in their work

01 Interviewee #1

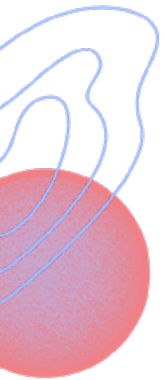
02 Interviewee #13



going forward. Secondary intended audiences are grantmakers and practitioners with an environmental or climate focus who are interested in exploring the intersections between their work and that of the digital rights sector.

The report aims to provide qualitative insight on the **needs of and challenges faced by practitioners engaged in work spanning DR, tech and EJ-CJ issues**. It also aims to identify opportunities for digital rights funders to provide impactful support that is grounded in the real-world experiences of different communities and movements engaged in the fight for climate and environmental justice.

This report is part of a broader body of work commissioned by the Ford Foundation, Ariadne and Mozilla Foundation, who engaged The Engine Room to conduct research to help digital rights funders understand what role they have to play in environmental and climate justice.⁰³



⁰³ These organisations also commissioned companion issue briefs from the Association for Progressive Communications, BSR, and the Open Environmental Data Project (OEDP) and Open Climate.



About our research

This report draws on **desk research**, 20 **interviews** with practitioners working across digital rights and environmental and climate justice, and **collective discussions** held with practitioners and grantmakers (more details on our research methods can be found in the Appendix to this report).

During the course of this research, The Engine Room held calls with groups of grantmakers to discuss their efforts to craft agendas that speak to different issues related to EJ-DR. Some said that it can be difficult to know where to start and what to prioritise when confronted with the enormity of several overlapping crises. Others highlighted that existing funding programmes around environmental and digital rights issues may already provide a good space to advance work on cross-cutting issues, while also noting that more space must be made for intersectional agendas.

Interviewees working both on DR/tech and EJ-CJ emphasised that considering that the roots of our current crises go back hundreds of years, **there is no single right place to ‘start’ – rather, a multitude of pathways must be supported and advanced simultaneously**. Interviewees from across different movements and communities, however, expressed hope for more opportunities to collaboratively connect the dots between DR and EJ-CJ issues, and see an important role for grantmakers to play in facilitating opportunities to work productively together on cross-cutting issues, in addition to providing continued support for well-established areas of work.

What seems necessary and possible to foster, then, is a productive interface between movements/communities and grantmakers, which acknowledges the hard work being done already by communities and which supports them to carry out their work in a structural and sustainable (in many senses of the word) way. Towards this goal, this report includes opportunities and recommendations for digital rights funders, digital rights practitioners, and practitioners working at the intersection of digital rights and environmental/climate justice, on how to productively engage with and support intersectional work.



The structure of this report

The first section of this report provides an **overview of cross-cutting themes and challenges** at the intersection of DR and EJ-CJ, as highlighted by advocates across both spaces who participated in community calls and interviews. In section two, we outline five **Key Intersections** – issue areas of converging concern across DR, tech, and EJ-CJ movements – with each containing an **Opportunities** section that identifies potential points of entry for funders and practitioners. The Key Intersections serve as broad buckets to discuss the following interrelated issues:

01.

Sustainable internet/tech

02.

Access to information and information disorder

03.

Threats to safety

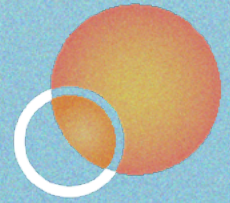
04.

Environmental/climate monitoring

05.

Migration justice

Finally, we offer a set of **Recommendations** for funders.



Working Definitions

➤ Digital rights

Definitions of digital rights (DR) are dynamic, and can be both broadly and narrowly construed. As a baseline, DR refers to the norms and principles that focus on issues related to how people use, access, create or mitigate potential harms stemming from digital technologies and the internet.

These rights are often, but not always, enshrined in laws and other legal instruments. This includes access to digital information and knowledge, privacy, digital security and data protection, automated decision-making, digital identification, content moderation, hate speech, online misinformation, disinformation, the regulation of the tech industry and the organising of gig economy labour.

The report situates work advancing DR as adjacent to work advancing data justice, digital justice, public interest technology, ethics of technology/AI, and internet and digitisation policy. The report also explores gaps and differences between DR and explicitly justice-focused initiatives. Our previous research identified a need for the DR sector to foster more solidarity and cooperation with social justice organisations and justice-centred initiatives related to technology.⁰⁴ In recent years, the DR field has advanced in this area through efforts to interrogate racism and inequity, ‘decolonise’ the sector, and explore how to connect DR issues to social justice issues. Bringing this expanding DR lens into dialogue with EJ-CJ issues is a nascent goal.

⁰⁴ The Engine Room. (2021). Strengthening intersectional approaches to data and digital rights advocacy during the pandemic. <https://www.theengineroom.org/wp-content/uploads/2022/01/DDR-Report-26-02-22.pdf>



➤ Social justice

In this report we draw on the definition of social justice initially developed in our 2021 report on intersectional approaches to data and digital rights⁰⁵: “the institutional conditions that are essential for the fair and equitable redistribution of power, resources and privileges,⁰⁶ and an explicit acknowledgment that oppressive and exclusive structures have created disparities among different groups in terms of their needs, resources and access to power.”

➤ Environmental and climate justice

In this report we consider how digital rights intersects with both environmental and climate justice issues. Environmental justice (EJ) and climate justice (CJ) are not necessarily conflatable or aligned in terms of areas of focus and issue frames.⁰⁷ However, they share many concerns, and for this reason, we refer to them as EJ-CJ when speaking to their commonalities in relation to DR.

The EJ movement is rooted in an intersectional civil rights response to the environmental racism experienced by communities of colour and low-income communities in spaces where they “live, work, and play.”⁰⁸ EJ comes from a long, systemic lineage of concern around ecology, co-evolving with the civil rights movement to draw links between existing social injustices (i.e. racism and the distribution of environmental harms, particularly the pollution from industries disproportionately located in minority neighbourhoods).

With the acknowledgement of systemic environmental racism at its core, the environmental justice movement works to centre the voices of the most impacted through a grassroots approach to organising and shared community leadership.⁰⁹

⁰⁵ Ibid.

⁰⁶ Young, Iris M. (2011). Justice and the Politics of Difference. <https://press.princeton.edu/books/paperback/9780691152622/justice-and-the-politics-of-difference>

⁰⁷ Dosemagen, S., Williams, E., Hoerberling, K., & Heidel, E. (2022). Environmental Justice, Climate Justice, and the Space of Digital Rights. Open Environmental Data Project and Open Climate. <https://engn.it/climatejusticedigitalrights>

⁰⁸ Novotny, P. (2000). Where We Live, Work, and Play: The Environmental Justice Movement and the Struggle for a New Environmentalism. Greenwood Publishing Group.

⁰⁹ Just Transition. (n.d.). Just Transition—Climate Justice Alliance. Retrieved 25 April 2022, from <https://climatejusticealliance.org/just-transition/>



As the Open Environmental Data Project and Open Climate highlight in one of their companion issue briefs to this report,¹⁰ CJ is a more recent term, having to do with the ongoing/intensifying climate crisis and its implications for economic justice and the right to a liveable planet. CJ draws on the same key observations of the EJ movement, namely the deeply inequitable nature of the impact of climate change, while building further on the importance of keeping grassroots solutions at the front and centre of their work.

CJ movements emphasise that the impacts of climate change are fundamentally unjust: impacted communities and demographics – people of colour, Indigenous people, people with disabilities, the very old and the very young, and women – tend to have contributed the least to climate change while also being poorly equipped, due to their historic, economic, political and/or geographic positions, to mitigate the harms climate change has or will have on their lives.¹¹ As such, the CJ movement actively filters discourse and policy around climate change through the lens of colonialism and empire, asking what is fair and right regarding climate change mitigation strategies and policies in a larger context of global justice. In particular, climate justice solutions seek to centre and realign power with the communities bearing the brunt of climate change.¹²

Importantly, not all contexts are defined by the impact of a changing climate as much as environmental harm stemming from industrial practices, and vice versa. Nor is harm experienced in a uniform way, given the differences within and between communities, even in the same region. Adopting an EJ-CJ framing allows this report to pay attention to the specificities that emerge from EJ-CJ movements' focus areas, looking at how these intersect with digital technologies and/or offer opportunities to advance digital rights.

¹⁰ Dosemagen, S., Williams, E., Hoerberling, K., & Heidel, E. (2022). Environmental Justice, Climate Justice, and the Space of Digital Rights. Open Environmental Data Project and Open Climate. <https://engn.it/climatejusticedigitalrights>

¹¹ Work On Climate Community. (n.d.). Climate Justice 101 Guide. <https://www.notion.so/Climate-Justice-101-Guide-03bef96c18364c6cbca481ead365ae9e>

¹² Equinox Initiative for Racial Justice. (2021). Towards Climate Justice—Rethinking the European Green Deal from a racial justice perspective. <https://www.equinox-eu.com/wp-content/uploads/2021/06/Towards-Climate-Justice-Equinox.pdf>



➤ Extractivism

In our report, we adopt the term extractivism as a common lens for understanding harmful, unsustainable, and unjust dynamics happening in cross-cutting areas relating to tech, its impacts on environment and people. We also look specifically at ‘green extractivism’ – the process of drawing on finite resources in extractive ways to develop ‘green’ technologies,¹³ and ‘data extractivism’ – the process by which data on territories, lands, and people is used to continue the extraction of resources and expropriation of the commons.

¹³ Association for Progressive Communications (APC), & Swedish International Development Cooperation Agency (Sida). (2020). Technology, the environment and a sustainable world: Responses from the global South. https://giswatch.org/sites/default/files/giswatch_2020_english_0.pdf

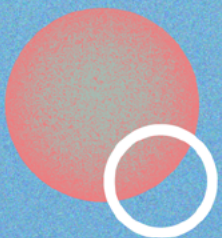


Research Findings

Cross-cutting themes and challenges

In our research, we identified a diverse range of initiatives approaching problems around tech, climate, environment, rights and justice from different perspectives. Among the people we spoke to and initiatives we surveyed, we identified cross-cutting issues, shared priorities, areas of common cause, and, just as importantly, differences and frictions.

Six key themes resonated across our desk research, community calls, and conversations with actors in the EJ-CJ and DR ecosystems. We explore them broadly below, offering a view of each of them as they stand now, at the intersection of EJ-CJ and DR work.





01

The need for connections and shared vocabularies across communities, movements, and sectors

In a number of discussions, participants flagged alignment in language, terminology, approaches to equity, and an analysis of regional power imbalances as important prerequisites for working together on overlapping issues.

Currently, a gap exists between practitioners and scholars, as well as between countries, where **the same issue might be described by different terms** – these subtle differences in turn emphasise **different values and goals**.¹⁴ An algorithmic disinformation researcher we spoke to noted how their work at the intersections of digital rights and environmental justice spanning technology, human rights, and sustainability encompassed “worlds (that) don’t speak to one another.”¹⁵

Moving towards a shared lexicon

The DR actors we spoke to face **pressure to have clear issue-focused agendas**. For them, creating more cross-cutting agendas (such as ones that incorporate EJ-CJ) is a challenge that will require extra time and resources. Advocates, engineers, and lawyers in the DR and allied tech arenas also acknowledged their tendency to use **tech jargon that’s inaccessible to outsiders** and that can alienate potential collaborators.

On the EJ-CJ side, **scientific language in the climate space** is also daunting to outsiders. One interviewee, a DR activist increasingly mobilising on environmental issues, described the COP meetings,¹⁶ for example, as a setting with a unique “code you have to learn to understand.” For them, this experience reinstated the

¹⁴ Jansen, F. (2021, October 6). Gathering for a Sustainable Internet. The Green Web Foundation.

<https://www.thegreenwebfoundation.org/news/gathering-for-a-sustainable-internet/>

¹⁵ Interviewee #13

¹⁶ COP, or the Conference of the Parties, is an annual multilateral summit where countries signatory to the United Nations Framework Convention on Climate Change take high level decisions on climate goals.



importance of locating common interests and co-creating a shared lexicon for the work that needs to be done, suggesting: “...by developing a shared lexicon between two movements that do not currently have a common language, shared priorities and a commitment to long-term approaches would be able to emerge.”¹⁷

Some we spoke to were, however, **wary of calls to streamline issues into ‘shared’ parameters** for the sake of universal legibility. A feminist researcher working against resource extraction in southern Africa explained how under-resourced organisations in the Global South are often pressured to align their core focus with global-north-based funders and capacity building partners’ priorities – an unequal dynamic that places a burden of conforming in exchange for resources.

The current lack of a shared lexicon **extends into a variety of areas**. DR and EJ-CJ fields can differ, for example, in their approaches to naming and addressing **structural violence**¹⁸, which means that aligning on how to weave equity into programmatic agendas can also be difficult.

The challenge of weaving equity into programmes is preceded by a more fundamental question of what is considered within **the scope of ‘digital rights’**. Some EJ-CJ practitioners we spoke to explained they had only a vague sense of what issues fall under the umbrella of DR. An exception was issues around privacy and digital security, flagged by several as a clear and important area of long-running concern for land defenders and climate movements. For this reason, DR practitioners flagged **privacy and digital security** as a common entry point into discussions with EJ-CJ movements about technology issues more generally.

Beyond privacy and digital security, interviewees coming from both DR and EJ-CJ flagged that certain relevant **concerns and perspectives still need to be addressed more fully within the remit of DR**. Interviewees coming from both DR and EJ-CJ highlighted that while EJ-CJ work already centres social justice, there’s a need for stronger connections to be forged between DR’s established core areas and economic rights, labour rights, racial justice, and social justice more broadly.¹⁹ The work to forge these connections is ongoing within the larger DR ecosystem, as demonstrated through initiatives addressing the role of racial injustice in surveillance and algorithmic discrimination,²⁰ and more attention is being paid

17 Interviewee #1

18 Structural violence refers to social structures, institutions or forces that disproportionately harm certain groups of people by limiting their ability to meet their basic needs.

19 The findings featured in this report are in line with our previous findings from research exploring how to foster greater collaboration between digital and data rights actors and social justice actors. See: The Engine Room. (2021). Strengthening intersectional approaches to data and digital rights advocacy during the pandemic. <https://www.theengineroom.org/wp-content/uploads/2022/01/DDR-Report-26-02-22.pdf>

20 See initiatives such as the Algorithmic Justice League (<https://www.ajl.org/>),



to internal dynamics within the DR field around equity, anti-racism, and anti-colonialism.²¹ With continued work, interviewees hope that this expansion and re-alignment of priorities will allow for more cross-cutting and collaborative work to emerge between DR and EJ-CJ.

Interviewees also noted **ideological differences** between the DR and EJ-CJ movements. Using a human rights framework, DR builds on individual rights, whereas EJ and CJ paradigms focus more on communities. While the DR movement has worked to transform this framing, one interviewee noted that the field still relies on individualistic framings of rights.

The lack of a shared worldview is exacerbated by power imbalances

Issues around **how to address injustices** are also very much in contention within different EJ-CJ movements themselves, which is a dynamic DR actors should take care to acknowledge. EJ-CJ practitioners we spoke to pointed to **power imbalances**, saying that global north state actors have a ‘do as I say, not as I do’ attitude: pushing countries in Africa to mitigate their contribution to climate change even as they don’t do enough themselves. In one example that was raised, while African nations were told not to explore their natural gas reserves during the recently concluded COP26 meetings, the EU is the biggest importer of gas from Africa, which means that existing gas resources are not available for Africans themselves. On this, one interviewee reflected:

“If you sit in your nicely warm room in Europe or America, sit behind your PC and join a call, saying ‘No, Africa shouldn’t progress with their natural gas exploration’, while you are not taking any initiative in reducing your coal and gas (consumption), there’s no fairness and justice.”²²

These imbalances play out at the level of individual participation as well. For example, the interviewee quoted above noted that prior to their participation in The Engine Room’s second community call, they had not had a chance to reflect on technology and climate justice as two distinct but interrelated fields, as they’d been limited by constraints on their time and resources.

Data for Black Lives (<https://d4bl.org/>), the Carceral Tech Resistance Network (<https://www.carceral.tech/>), and Stop LAPD Spying Coalition (<https://stoplapdspying.org/>), which explicitly centre racial injustice in their research, advocacy, and organising around technology issues.

²¹ See the work of the Digital Freedom Fund (<https://digitalfreedomfund.org/decolonising/>) and its partner European Digital Rights (<https://edri.org/what-we-do/decolonising-digital-rights/>) on initiating a ‘decolonising process for the digital rights field’.

²² Interviewee #10



As a result, there is often a disconnect within EJ-CJ spaces where the majority of ‘people in the room’ in many high-level EJ-CJ fora are overwhelmingly white and/or from the global north, and the pluralities of the world are not reflected. With this **homogeneity** in the kind of people who attend (or are able to attend) high-level climate forums, certain perspectives on ‘what is development’ or what counts as a climate solution get entrenched, which has **ramifications for the kinds of technologies that are proposed or invested in** by governments and corporations.

In terms of differences between EJ-CJ and DR approaches, EJ-CJ actors immersed in responding to the vulnerabilities of climate change felt by those closest to the problem – smallholder farmers, for example – may value the **immediate short-term benefits** of certain new technologies, but the global DR space might find those same technologies ultimately problematic – for both the climate and for the communities they’re intended to serve. This is a concern that comes up in relation to AI, which is seen by some to hold benefits for climate mitigation, and which is increasingly being used in the development sector. A technologist exploring the use of big data and AI in agriculture gave an example to illustrate how ‘development’ assisted by technology like **AI may in fact have paradoxical consequences for the climate and environment:**

“There’s a general tendency in the West to think that the answer is in helping certain regions develop, which will lead to solving the issue of climate change. But it’s more complicated than that. In China they’re using AI to modernise farming. They’re using tech for e-commerce, trying to get farmers to not do small farming and trying to get big corporations to consolidate land and do industrial farming instead, which has huge greenhouse gas emissions.”²³

Outside China, the use of AI for measuring inputs and raising yields – ‘precision agriculture’ – has been adopted by the UN in its efforts to improve smallholder productivity.²⁴ This enthusiasm for AI, bolstered by alliances between agribusiness and extension agencies, is an opportunity for DR practitioners to bring in considerations around **ethics and justice** when it comes to technological interventions.

²³ Interviewee #12. To learn more about the use of AI in farming practices in China, see: Wang, X. (2020). *Blockchain chicken farm: and other stories of tech in China’s countryside*. First edition. New York: Farrar, Straus and Giroux.

²⁴ United Nations Development Programme. (2021). *Precision Agriculture for Smallholder Farmers*. UNDP Global Centre for Technology. <https://www.undp.org/library/precision-agriculture-smallholder-farmers>



Movements view the roles and responsibilities of the private sector, public agencies, and intergovernmental organisations differently

Interviewees within both DR and EJ-CJ spaces saw the roles of the private sector, public agencies, and intergovernmental organisations in fostering accountability, addressing harm, and incubating solutions differently.

When it comes to EJ-CJ, some of those we spoke to (from both DR and EJ-CJ sectors) argued for the importance of **working collaboratively with governments and corporations** to set sustainability standards and develop climate solutions, while others emphasised the need to build out **oppositional, autonomous, and local efforts** to tackle the huge societal problem of climate change.

In the quest to avert ever-more serious climate ramifications, interviewees from both DR and EJ-CJ work reflected on whether there is ‘enough time’ left to work iteratively and cooperatively within supranational structures like the UN and in collaboration with business-led sustainability initiatives, or if the crisis we’re in demands a more oppositional stance altogether.

A climate activist described how in the past, some climate movements have become a **de facto “controlled opposition”**²⁵ by working within corporate and government structures whose terms it cannot set, diluting its own agendas in the process. The same problem was pointed to in relation to DR: interviewees expressed concern that ‘revolving doors’ between DR nonprofits and Big Tech companies may impact the extent to which civil society takes commercial actors to task for harms.

This connected to concerns around the cooperative, rather than an oppositional, approach towards Big Tech companies that some DR nonprofits take – an approach that can be partially attributed to a need to maintain **working relationships with commercial actors** in order to find redress for digital attacks against civil society – in the face of digital attacks perpetrated through commercial platforms, knowing someone on the inside of a company can mean the difference between receiving assistance or not.

The frictions and differences between oppositional and cooperative approaches speak to the complexity of trust-building within and across movements; the climate activist quoted above argued for the need to ‘draw red lines’ around what is acceptable:

25 Interviewee #3



“Don’t be afraid to draw a tangible line and say, here you should not cross. One of the biggest mistakes the digital rights community has to learn from the environmental community is that we thought for decades we could make deals with the fossil fuel industry and just make agreements on the way they do things – to create sustainability standards. But ultimately we lost that battle because we gave them decades to keep doing what they’re doing, so they’re the ones who have been winning the fight.”²⁶

Timescales of EJ-CJ and DR work are not in sync with one another

Actors in the DR space tend to work according to a different timescale to those in the EJ-CJ sector. Those in the DR space spoke of **continuously needing** to react to coordinated digital attacks against civil society groups, shifting corporate data practices, and governmental policies around surveillance, privacy, and censorship – emergencies that demand a **rapid response**.

The climate crisis, on the other hand, has been simmering for a lot longer and continues to be stoked by the extractive dynamics of our present; actors we spoke to in the EJ-CJ arenas tend to work on projects with **longer mobilisation timelines**, though recent advocacy efforts are focusing more on introducing urgency into climate communication. (Securing tenurial and access rights for India’s Indigenous and forest-dwelling peoples, for example, took two decades of grassroots activism.) One interviewee saw the need for more conversation around scales of thinking, and exploration of what can be gained – or, conversely, what is at risk – from introducing more urgency.

²⁶ Interviewee #3



02

“Our focus on growth is incredibly dangerous”

In our community calls and interviews, the question of **limitless growth on a planet with finite resources** emerged as an intersectional issue of urgent importance to both DR and EJ-CJ fields. The environment and climate movements have long rallied against a capitalist paradigm that sees continuous expansion as its core tenet. Now, practitioners from both DR and EJ-CR interrogate how the adoption of ‘sustainable technologies’²⁷ feeds into this paradigm. **To what extent might these technologies perpetuate an unsustainable status quo?** As one fossil fuel divestment specialist said:

“Our focus on growth is incredibly dangerous and is not the way. We need to change the whole way we relate to nature, the environment, our resources that we have. Growth is not proving to be a positive thing ... the inequality gap is what is growing and growing.”²⁸

One of the key indicators of the climate crisis is global temperature rise, set by the Intergovernmental Panel on Climate Change (the IPCC) at a 1.5 degrees celsius ‘safe limit’ – a target that will require a dramatic reduction in global emissions in the coming years. Several interviewees from across EJ-CJ and DR fields argue that meeting these targets requires a shift from endless growth to to ‘degrowth’: an economic contraction for richer nations accompanied by a shift from growth-oriented economy to sufficiency-focused production. Instead of assuming that continued economic growth is possible in its current form, degrowth advocates are interested in figuring out how to enforce ‘limits to growth’ through changes in how we consume, produce, and sustain ourselves.

Alongside ‘degrowth’, **‘planetary boundaries’** and **‘postgrowth’** perspectives also ask whether it is possible to reconcile the current status quo with the urgent need to draw down carbon emissions. **‘Post-extractivism’** goes even further and

²⁷ ‘Sustainable technologies’ refers to the growing need for technology to be more environment-friendly, and reducing dependence on fossil fuels (electric vehicles, for example). This report’s Key Intersection #1 explores the topic in detail.

²⁸ Interviewee #6



centres social and ecological well-being instead of (over) production and (excess) consumption – goals that go beyond economic contraction and envision a new type of social relations between humans and between humans and the environment.²⁹

A number of actors interviewed across both environmental justice and digital rights spoke about growth in relation to their own work: energy professionals and green internet specialists we spoke to, for example, highlighted that moving to **renewable energy is not necessarily ‘sustainable’ if business models require ever-more finite resources**. For DR advocates, this shift towards recognising that merely replacing traditional energy sources with renewables without revisiting the limitless growth paradigm has meant exercising scrutiny over Big Tech’s claims to sustainability and the assumption that technical innovation involving renewables or energy efficiency is enough.

Post-growth advocates in the DR field are also beginning to interrogate their vision for digital infrastructure from environmental and social angles:

“What kind of society do we want to live in? Maybe that’s something we want to think about in different contexts, in the European context or in other regions in the world...having a post-growth vision.”³⁰

²⁹ Acosta, A., & Brand, U. (2018). Pós-extrativismo e Decrescimento—Saídas do labirinto capitalista. <https://elefanteeditora.com.br/produto/pos-extrativismo-e-decrescimento/>

³⁰ Interviewee #17



03

Extractive dynamics are a problem across sectors

The **extractivism of Big Tech enterprises** and the **extractivism of fossil fuel companies** are increasingly resembling one another – or in some cases, even working together. Some Big Tech companies, for example, have been found to be actively assisting fossil fuel companies to generate more precise and efficient techniques for fossil fuel extraction, through the application of machine learning.³¹ This type of issue collision is now also taking place in ‘just transition’ initiatives: in order to develop ‘**green technologies**’, companies are extracting rare earth minerals like lithium and cobalt – a contradiction that has been termed ‘green extractivism’.³² In the EU alone, demand for cobalt and lithium is expected to rise 15- and 60-fold respectively, even as the mining of these minerals leads to dispossession and toxic pollution for many communities.

31 Donaghy, T., Henderson, C., & Jardim, E. (2020). Oil in the Cloud: How Tech Companies are Helping Big Oil Profit from Climate Destruction. Greenpeace. <https://www.greenpeace.org/usa/reports/oil-in-the-cloud/>; Whittaker, M., & Dobbe, R. (2019, October 17). AI and Climate Change: How they're connected, and what we can do about it. Medium; AI Now Institute. <https://medium.com/@AINowInstitute/ai-and-climate-change-how-theyre-connected-and-what-we-can-do-about-it-6aa8d0f5b32c>

32 Peña, P. (2020). Bigger, more, better, faster: The ecological paradox of digital economies. GIS Watch 2020. Association for Progressive Communications <https://giswatch.org/node/6245>



A 'just transition'



The **'just transition'** framework has been at the centre of policy making, social movements, and parliamentary resolutions since the Green New Deal (in the US) and the Green Deal (in the EU) began gaining traction. Explaining the values guiding a just transition, the Just Transition Alliance explains:

“The transition itself must be just and equitable; redressing past harms and creating new relationships of power for the future through reparations. If the process of transition is not just, the outcome will never be. Just Transition describes both where we are going and how we get there.”³³

The just transition lens on technology issues has been spearheaded by justice-oriented environmental/ climate groups working in collaboration with labour movements and communities affected by the environmental harms of Big Tech companies. The EU's Green Deal, for example, has built-in funding pipelines for shifting from extractive, harmful economic models powered by fossil fuels to renewable energy sources. Civil society actors are debating the particularities of the transition and the role technology will play, while ensuring that rank-and-file union members, environmental and climate justice movements, and Indigenous and community representatives from impacted communities participate in this process and collectively decide what will make this transition 'just'.

In addition, as **renewable energy infrastructure expands in the global south**, technology companies are moving in quickly to make claims over it in order to appropriate it towards their own profits and/or decarbonisation goals, thereby depriving local communities of their right to use and steward the infrastructure built on their lands – a dynamic in continuity with historical processes of imperialism, profiteering, and displacement.

In our discussions with people working at the intersection of tech and environmental/climate justice, **'digital colonialism'**³⁴ was offered as a cross-cutting

³³ Just Solutions Collective. (n.d.). Climate Justice Alliance: Just Transition, A Framework for Change. <https://www.justsolutionscollective.org/solutions/climate-justice-alliance-just-transition-a-framework-for-change>

³⁴ Digital colonialism – and relatedly, notions of 'data colonialism', 'AI colonialism' and decolonisation – are concepts discussed by a growing number of practitioners and scholars concerned with surveillance, big data, and AI. See: Pinto,



framework that can account for **the continued presence of colonial extractive relations between governments and marginalised populations**. In the US, for example, building, or allowing the building of, critical data infrastructure on Native-owned lands is in continuity with how the US government has historically appropriated Native lands for its own extractive purposes, be it for settlement, mining, cattle ranching, or now data centres. Shayna Robinson, Program Officer at The Internet Society Foundation and an invited speaker at our first community call, put it such:

“We can centre and bring to focus our digital bodies and the land-based context for some of the oppressions and harms we experience online or through the internet.”

Our interviewees also called attention to the **extractive nature of a range of digital activities**, from streaming to bitcoin mining. All data-intensive actions have an environmental price, and some far more than others, but right now, as one interviewee explained, the resource intensive nature of digitisation and the extractive processes behind sustainable technologies using rare earth minerals are “the two most important externalities that a tech company or company dealing in data is putting on society to make more money.”

Work within companies and large institutions looking to move towards sustainability also coexists with disagreement around what **meaningful sustainability** actually means. As companies transition to renewable energy sources, interviewees emphasised the need to pay attention to ‘**greenwashing**’³⁵ and to scrutinise corporate sustainability pledges by technology companies, which might only be a drop in the bucket compared to the full range of harms caused.

R.A. (2018). Digital sovereignty or digital colonialism?, SUR 27, accessed April 12, 2022, <https://sur.conectas.org/en/digital-sovereignty-or-digital-colonialism/> and Couldry, N. & Mejias, U.A. (2021). [The decolonial turn in data and technology research: what is at stake and where is it heading?](https://www.informationcommunicationandcommunication.com/research/what-is-at-stake-and-where-is-it-heading/), *Information, Communication & Society*.

At the same time that interest grows in applying a colonial or de-colonial lens to the study of digital technologies, anti-colonial scholars remind that ‘decolonization is not [just] a metaphor’, but rather, speaks to an ongoing injustice distinct enough in its own right that it should not necessarily be conflated with other burning issues around equity, racism, and social justice. See: Tuck, E. and Yang, K.W. (2012) Decolonization is not a metaphor. *Decolonization: Indigeneity, Education & Society* 1(1), pp. 1-40. <http://www.decolonization.org/index.php/des/article/view/18630/15554>

³⁵ ‘Greenwashing’ refers to the practice of conveying false, deceptive or misleading information about a company or individuals’ practices, to give the impression that they are somehow beneficial for the environment.



04

Both technological and environmental crises are hard to visualise and mobilise around

How should movements help different publics understand enormous problems that don't always feel urgent or 'visible'? This was a question raised by interviewees both from DR and EJ-CJ fields, who pointed out that a lack of proper understanding can make the work of **demanding accountability from institutions** for ongoing and past harms especially challenging, as well as pose difficulties in terms of mobilising different publics and making the drastic shifts needed to address climate and environmental crises and mitigate technological risks.

While Indigenous communities, rural residents, and island nations point out that the impacts of climate change have been their lived reality for a long time,³⁶ geographic and social inequities mean that while **some groups of people experience direct harm, others remain somewhat insulated** (for the moment). But making the harms of climate change visible to all is not straightforward: the trade-offs of replacing fossil fuels with renewable energy are not discernible to the human eye, for example, and changes to sea levels or air quality are difficult to observe directly.

The challenges of making unequally felt harms visible to all resonated with DR actors as well. Making monopoly-owned undersea optic cables and telecom networks visible is difficult – so much so that the internet can seem like an abstract good, until one starts digging into the scale of resources consumed by corporate data centres on a daily basis, or disentangle the exploitative labour relations powering our smartphones.³⁷ Additionally, DR practitioners we spoke to highlighted

³⁶ Rudiak-Gould, P. (2013). "We Have Seen It with Our Own Eyes": Why We Disagree about Climate Change Visibility. *Weather, Climate, and Society*, 5(2), 120-132. <https://doi.org/10.1175/WCAS-D-12-00034.1>

³⁷ For more, see: Burrington, I. (2015). What's Important About Underwater Internet Cables. *The Atlantic*. <https://www.theatlantic.com/technology/archive/2015/11/submarine-cables/414942/> and the entry on Digital Infrastructures in the Field Notes Towards an Internationalist Green New Deal project (2022) <https://internationalistgreennewdeal.org/topic/digital-infrastructures>



the difficulties they've faced over the years in **raising awareness around issues such as digital surveillance**, which at first may seem 'invisible'.

The invisibility of both digital and environmental challenges is striking even in proposed solutions. For example, electric vehicles (EVs) promise a smooth transition to a 'zero-emission world' but what's left blurry to EV users is the source of EV batteries' primary component, lithium: primarily mined in the Andean Altiplano, home to ancient aquifers and Indigenous populations spanning four Latin American nations.

Interviewees called on both the DR and EJ-CJ movements to challenge the idea that digitisation and the 'digital economy' are somehow more sustainable by virtue of being digital, or 'dematerialised' – an idea that has been pervasive for several decades in ICT-climate dialogues.³⁸ One energy specialist argues that it's now essential to **break down this idea that the technology sector is somehow exceptional** in relation to the energy use of other industries:

“If we really take the climate problem seriously we should not allow tech companies to pretend that they are doing the climate or the energy transition a favour with their business model.”³⁹

Paying attention to **extractive labour relations** behind the mobile applications we use daily, parsing the true **energy costs** of technological interventions like artificial intelligence, and accounting for the **land** that Big Tech data centres occupy (and pollute) will be critical, allowing for a better appreciation of environmental justice issues that have digital dimensions, but take shape in materially extractive ways.

³⁸ Peña, P. (2020). Bigger, more, better, faster: The ecological paradox of digital economies. GIS Watch 2020. Association for Progressive Communications. <https://giswatch.org/node/6245>

³⁹ Interviewee #3



05

The frictions and contradictions of 'Tech for Climate'

Progress and innovation are guiding stars in the tech space, but the fight against the 'inevitability' of technical progress (and relatedly, the 'inevitability' of surveillance) is a long-running theme in DR and data justice/digital justice work.⁴⁰ The tension between **what technology can offer** to ameliorate climate change and the recognition that **no technology comes without costs** was flagged as crucial by interviewees in the DR space, especially in light of the enormous investments being made into different technologies touted for their potential to mitigate the harms of industrialisation and pollution.

Amid a growing number of initiatives praising the benefits of using **machine learning** in support of environmental and climate goals (sometimes referred to as 'AI for Planet'), for example, some promote AI as a tool to help 'solve' climate change, while others emphasise that the carbon-intensive processes that prop up AI mean it's more important to focus on 'sustainable AI' rather than 'AI for sustainability'.⁴¹

An actor in the climate sector noted that sometimes employing AI can result in better efficiency and sustainability in one area, yet still have negative effects in other areas. The use of AI and automation in mining, for example, makes the work more energy efficient but also displaces workers.

In broad terms, DR and EJ-CJ actors also have differing views on 'web3' technologies, such as blockchain and digital currencies. Several nonprofit DR groups argue that the **decentralised structure** of these technologies makes them important

⁴⁰ Benjamin, R. (2019). Race after technology: Abolitionist tools for the new Jim Code. Polity.

⁴¹ van Wynsberghe, A. (2021). Sustainable AI: AI for sustainability and the sustainability of AI. *AI and Ethics*, 1(3), 213–218. <https://doi.org/10.1007/s43681-021-00043-6>



to engage with,⁴² and some technologists within the field are actively involved in their development. The people we spoke to from environmental and climate movements, on the other hand, believe the **negative environmental impact** of these technologies eclipses any potential benefits they might have and, as such, that any engagement on web3 technologies should be in divestment.

The need to **reliably measure the environmental impact** of new technologies is perceived as an urgent priority. Reflecting on a discussion they participated in on how to measure the impacts of technologies, one interviewee recalled:

“People were like, ‘yeah we don’t know about the impact, and we don’t know how to measure it’. You can measure efficiency of algorithms, but blockchain? How do we solve climate issues with tech with this lack of information?”⁴³

⁴² See EEF’s work on Blockchain (<https://www.eff.org/issues/blockchain>), which argues that “there are promising new approaches to developing blockchain technology to address financial and decentralization issues in a digital world, including research into more privacy-protective cryptocurrencies.” And: Fight for the Future (<https://www.fightforthefuture.org/actions/stop-the-senate-from-sneaking-through-total-surveillance-of-the-crypto-economy/>) which explains that the DR rationale for continuing to engage on Web3/cryptocurrency issues is that “cryptocurrencies are both a testing ground and a foundational investment in the move to decentralization,” a principle of ongoing importance to technologies supportive of DR.

⁴³ Interviewee #12



06

Growing and protecting the ‘commons’

Since the publication of Elinor Ostrom’s *Governing the Commons* in 1990, **the ‘commons’ has become a pillar** for how movements understand, use, manage, and defend environmental resources. On the tech side, technologists and data activists have argued for a **‘commoning’ of technology, data, information, and digital infrastructures** in order to build systems parallel to those held under monopoly control by Big Tech corporations.

The concept of ‘the commons’



A helpful definition of ‘commoning’ comes from an essay by Deborah Thomas titled ‘Commoning: An Alternative Governance Paradigm for our Digital Futures’ – part of a collection of short essays explicitly situated at the intersection between the technology and climate fields. Thomas writes: “A Commons framework which is premised on ideas of self-governance and collective action, means that communities determine what data is digitised, ensure that data stories (provenance and meta-data) are ground truthed, and can mobilise data to challenge environment policy that is premised on extractive logics. It can also lead to data infrastructure and production methods that are participatory, equitable, and transparent.”⁴⁴

The **need to strengthen the ‘commons perspective’ across both EJ-CJ and DR** fields is an ongoing one. A challenge for the EJ-CJ field, for example, is the fact that the Intergovernmental Panel on Climate Change (IPCC) – the UN body responsible for overseeing scientific research on human-induced climate change – keeps its latest findings behind peer-reviewed journal paywalls. And though climate advocacy groups may prefer to avoid Big Tech platforms like Google and Facebook (as these companies are complicit in spreading climate misinformation and perpetu-

⁴⁴ The full collection of papers can be accessed here: <https://www.mctd.ac.uk/wp-content/uploads/2021/10/CostOfConvenience-05.pdf>



ating fossil fuel extraction), without accessible alternatives, or in contexts where internet access itself is synonymous with Big Tech – where Facebook’s Free Basics dominates, for example – these groups are reliant on Big Tech to carry out their organising work.

This **potential to create alternatives beyond Big-Tech-owned platforms and digital services** is echoed in the open movement’s call to work more intersectionally and closely with the climate movement, pointing to overlaps between the fight against private appropriation of land and resources, and the fight against private appropriation of informational commons (using intellectual and copyright laws).⁴⁵

In thinking through the ‘commons’ as it pertains specifically to climate-related technology and climate-related data initiatives, it’s important to also acknowledge that the ‘commons’ might mean different things to different groups in different contexts and parts of the world.

Anti-colonial Indigenous scholar Max Liboiron asks **who decides what belongs in the commons**, pointing to instances in early land conservation efforts where it was settlers who decided that Indigenous land in the Americas belongs to ‘everyone’.⁴⁶ Solidarities between Indigenous peoples fighting agrochemical multinational giants like Monsanto for their right to save and exchange seeds and internet freedom defenders resisting copyright and patent regulations need to be bolstered. Importantly, both are united in their **opposition to privatisation of the commons**.⁴⁷ Initiatives like the Open Climate Community Calls⁴⁸ offer an important model for EJ-CJ and DR actors to learn about their field-specific approaches to the commons, the tactics and challenges unique to their arena of work, and collectively iterate on collaboration strategies.

45 Dosemagen, S., Heidel, E., Murillo, L. F. R., Velis, E., Stinson, A., & Thorne, M. (2021, June 14). Open Climate Now! Available at: <https://branch.climateaction.tech/issues/issue-2/open-climate-now/>

46 Liboiron, M. (2021). *Pollution is Colonialism*. Duke University Press.

47 Dosemagen, S., Heidel, E., Murillo, L. F. R., Velis, E., Stinson, A., & Thorne, M. (2021, June 14). Open Climate Now! <https://branch.climateaction.tech/issues/issue-2/open-climate-now/>

Dosemagen, S. (2021, April 26). OpenClimate Community Call: March 30, 2021. Open Climate. <https://medium.com/open-climate/openclimate-community-call-march-30-2021-ae0e97b7b96b>

48 To learn about these, see: https://www.appropedia.org/Open_Climate



Key Intersections

Our research surfaced several key intersections of cross-cutting interest among DR and CJ-EJ movements and communities.

These are areas where we heard consensus around specific points of concern, but where the practitioners also identify numerous concrete opportunities for funders, practitioners, organisations, communities and activists to explore in further cross-cutting work.





Key Intersection #1:

Sustainable internet and technology

Summary: Sustainable internet and technology



A number of initiatives in both the corporate and nonprofit technology spheres are tackling sustainability issues, working to increase the efficiency of technological infrastructure and transition this infrastructure to renewable energy sources.

This work is being pushed forward by a variety of actors, including Big Tech company sustainability initiatives, small social enterprise actors, nonprofit organisations, and grassroots groups. The diversity of those involved means that efforts towards sustainable technology are effectively disparate communities of practice, reflecting differing values, and opening up important contradictions and contestations.

While some actors are focusing on transitioning existing infrastructures to renewable energy or increasing the efficiency of existing value chains, others are challenging commercial practices and Big Tech harms, and are forging alternative models for tech production and use.

Taking stock of Big Tech practices and pledges

Moving towards more sustainable technological futures requires **an enormous push to shift the current practices** of the biggest and most powerful actors in the tech space.

Big tech companies have been making **bold public climate pledges**, promising to alter their practices to make them more sustainable and environmentally friendly. However, the details of how these companies will make progress towards their goals are frequently sparse, making it difficult to understand whether or not they are fulfilling their pledges, and there is a lack of cohesion across these pledges. Terms such as ‘net zero’, ‘decarbonisation’ and ‘carbon neutral’ are used inter-



changeably across companies' published texts, with little discussion of the specific requirements of each.

Despite the general **lack of transparency and cohesion**, however, it's well known that Big Tech companies rely on a particular set of tools to shape sustainability processes. These include the purchasing of renewable energy credits (**RECs**)⁴⁹ and carbon offsetting programmes⁵⁰, as well as offering small funds to environmental and climate organisations in an effort to foster goodwill.

But many of **these methods are riddled with inconsistencies**. For a number of years, for example, it has been popular to consider the idea of planting and re-planting trees as a strategy to counter carbon emissions produced. But this approach comes with a number of potential problems: newly-planted trees can fail to take root, be felled, or die in wildfires – forest fires in North America have already released the carbon that was 'offset' by Microsoft.⁵¹ As another example, Oxfam reports that **afforestation**⁵² programmes for the offset market could also drive up food prices by reducing land available for agricultural purposes.⁵³ Single-species afforestation programmes also do not contribute to agrobiodiversity, so new tree planting initiatives are paying greater attention to what types of 'forests' are being planted for sequestering carbon and to what degree new forests are fulfilling local communities' livelihood needs.⁵⁴

Quick and easy to buy, RECs have proven to be a very alluring solution for tech companies seeking to meet ambitious climate goals. However, **RECs have no definite environmental impact**: they don't encourage more renewable energy to come online, and in many instances they say nothing about whether renewable energy is actually being used.⁵⁵ RECs can also be bought and sold on – much like currency –

49 RECs certify that a particular megawatt-hour (MWh) of electricity has been generated and delivered to the grid from a renewable energy source. But companies buying them do not necessarily operate on that renewable energy – thus allowing them to claim green sustainable practices while continuing to operate via electricity grids run by fossil fuels.

50 Amazon, Google and Facebook were three of the top five US corporate buyers of renewable energy credits in 2020. See: O'Farrell, S. (2021, August 18). Big tech comes clean. fDi Intelligence. <https://www.fdiintelligence.com/article/80086>

51 Hodgson, C. (2021, August 3). US forest fires threaten carbon offsets as company-linked trees burn. Financial Times. <https://www.ft.com/content/3f89c759-eb9a-4dfb-b768-d4af1ec5aa23>

52 Whereas reforestation involves the planting of trees in areas that were previously forested, afforestation involves the planting of trees where there was previously no/limited forest cover.

53 Harvey, F. (2021, August 3). Reforestation hopes threaten global food security, Oxfam warns. The Guardian. <https://www.theguardian.com/environment/2021/aug/03/reforestation-hopes-threaten-global-food-security-oxfam-warns>

54 Sacco et al. 2021. Ten golden rules for reforestation to optimize carbon sequestration, biodiversity recovery and livelihood benefits. *Global Change Biology* 27(7): 1328 – 48 Available at: <https://onlinelibrary.wiley.com/doi/10.1111/gcb.15498>

55 Naik, G. (2021, May 5). Problematic corporate purchases of clean energy credits threaten net zero goals. <https://www.spglobal.com/esg/insights/problematic-corporate-purchases-of-clean-energy-credits-threaten-net-zero-goals>



unless a company requests a retirement certificate, thereby removing the REC from circulation and allowing them to claim the associated environmental benefit.⁵⁶

Given the issues associated with both RECs and carbon offsetting schemes, neither represents a clear path to **true mitigation** of Big Tech emissions, rendering the foundations of some climate pledges questionable.

Numerous interviewees also expressed concerns over the amount of control tech companies exert over reporting and disclosure. Despite the problems outlined above, Big Tech companies are not obliged to disclose any information about their emissions, and as such, environmental institutions and the broader public continue to **rely on Big Tech companies themselves for data on their own emissions**. This inhibits external oversight, as reporting cannot be independently audited or verified, risking carbon emissions becoming a complete ‘black box’. One interviewee pointed to carbon accounting wizardry and disingenuous use of jargon, highlighting tech companies who might, for example, account for their carbon emissions but fail to calculate the full spectrum of their emissions of methane gas (a significant driver of climate change).

The continued expansion of extractive Big Tech practices

While Big Tech companies make these pledges and moves to ostensibly sustainable practices, their **extractive business models** continue to expand. **Data-hungry large language models** (i.e. AI) are being developed and deployed – in some cases, as mentioned earlier, to directly assist with fossil fuel extraction. Many companies (including Google, Microsoft and Facebook/Meta) are also building new and ever-larger **data centres** in places including Chile and the Netherlands.

Crucially, **expanding data usage means using more resources**. Big tech companies claim that the new data centres they’re building will run on renewable energy, and will therefore not be harmful to the environment, but an energy transition expert we spoke to questions this:

“There is always – even without tech companies – a larger demand for energy than renewables can provide. And this has to do with the fact that switching to renewables is incredibly difficult. So anyone who comes in and says ‘I’m going to use a lot of energy,’ is not doing the transition to sustainable energy a favour.”⁵⁷

In Chile, where Google and Microsoft are expanding their data centres, the companies are diverting scarce local water sources and **polluting the local water**

⁵⁶ Interviewee #15

⁵⁷ Interviewee #3



systems in the process.⁵⁸ In the Netherlands, plans by Meta and Microsoft to build new data centres have been met with controversy from local residents and governments, as **the centres would absorb much of the new renewable energy coming online** while offering few other local benefits.⁵⁹ As these examples show, while the move to renewable energy is necessary and important, the availability of renewable energy sources can also contribute to the illusion of unlimited availability of resources, allowing for the continuation of unsustainable business practices. As an energy specialist we spoke to put it:

“Any data centre anywhere is using energy from the regular grid and the regular grid is always going to be a mix of renewables and fossil fuel. As long as you are using incredible amounts of energy you are de facto incentivising the burning of fossil fuels ... There is no energy transition without energy reduction.”⁶⁰

58 Movimiento Socioambiental Comunitario por el Agua y el Territorio - Chile. Presentan recurso de invalidación ante el SEA contra “Cerrillos Data Center” de Google - Mosacatchile.cl.

<https://mosacatchile.cl/2020/04/10/presentan-recurso-de-invalidacion-ante-el-sea-contr-cerrillos-data-center-de-google/>; Vallejos, R. (2022). Las mentiras de Microsoft en Chile: Una empresa no tan verde. Resumen.Cl. <https://resumen.cl/articulos/las-mentiras-de-microsoft-en-chile-una-empresa-no-tan-verde>

59 Meaker, M. (2022, January 7). Facebook’s Data Center Plans Rile Residents in the Netherlands. Wired. <https://www.wired.com/story/facebook-dutch-data-center/>; NH Nieuws. (2021). Red de Wieringermeer stuurt brandbrief om bouw van meer datacenters tegen te gaan.

<https://www.nhnieuws.nl/nieuws/296190/red-de-wieringermeer-stuurt-brandbrief-om-bouw-van-meer-datacenters-tegen-te-gaan>

60 Interviewee #3

Big tech practices and pledges:



Google/Alphabet, Microsoft, Facebook/Meta, Apple & Amazon

Each of the 'Big Five' tech companies has made their own set of climate pledges.

Google/Alphabet has pledged to neutralise carbon emissions from the delivery of consumer hardware by 2020 and include recycled (rather than new) plastic in each of its products by 2022. The company says it has cut carbon emissions by 52% since 2011. In 2019 Google announced it had bought enough renewable energy to match 100% of its global annual electricity use in 2017 and 2018,⁶¹ and had purchased enough carbon offsets to cancel out planetary emissions since starting their counting in 1998. They have also stated intentions to make all their operations run on carbon-free energy by 2030, and promised to no longer build customised AI technology or machine learning algorithms for the fossil fuel industry.⁶²

Microsoft, as one of the principal sponsors of COP26, has placed itself front and centre of the Big Tech climate discussions. In 2020, Microsoft announced that it would require its suppliers to report their emissions,⁶³ as a first step toward Scope 3 reductions.⁶⁴ Microsoft has also said it will be carbon negative by 2030, and has promised to remove all the emissions the company has ever produced (since its founding in 1975), by 2050. It has also promised to invest one billion USD into what it called 'climate innovations'.⁶⁵

Facebook/Meta has reduced its data centres' water usage to become 'water positive'⁶⁶, and has pledged to use 100% renewable energy in supporting its operations and achieve net zero emissions in its value chain by 2030 (Meta, 2020). By the company's own reporting, it has

61 Reuters Staff. (2020, January 16). Factbox: Big Tech and their carbon pledges. Reuters. <https://www.reuters.com/article/us-climate-change-tech-factbox-idUSKBN1Z-F2E7>

62 Daws, R. (2020, May 22). Google pledges to no longer build AIs for the fossil fuel industry. AI News. <https://artificialintelligence-news.com/2020/05/22/google-no-longer-build-ai-fossil-fuel-industry/>

63 Joppa, L. (2020, July 21). Progress on our goal to be carbon negative by 2030. Microsoft on the Issues. <https://blogs.microsoft.com/on-the-issues/2020/07/21/carbon-negative-transform-to-net-zero/>

64 The most important element of climate accounting is the type of emissions included. The greenhouse gas protocol has three levels of emissions: Scope 1 emissions are direct emissions from controlled sources (e.g. emissions from making an iPhone), Scope 2 emissions are indirect emissions (e.g. electricity to run buildings), and Scope 3 emissions are from a company's value chain. In order for a company's carbon accounting to be useful it must include Scope 3 emissions, as this accounts for all the carbon emissions that a company's existence creates.

65 Joppa, L. (2020, July 21). Progress on our goal to be carbon negative by 2030. Microsoft on the Issues. <https://blogs.microsoft.com/on-the-issues/2020/07/21/carbon-negative-transform-to-net-zero/>

66 Schupak, A. (2021, October 14). Corporations are pledging to be 'water positive'. What does that mean? The Guardian. <https://www.theguardian.com/environment/2021/oct/14/water-positive-pledge-corporations>



reduced its greenhouse gas emissions by 23% to 339,000 metric tons in the four years since 2014.⁶⁷ However, some of its efforts have struggled to find success – including the Climate Science Information Centre that Facebook launched to share reliable information on climate change, which was later found to have removed a fact check on a climate misinformation article.⁶⁸

Apple has pledged to make its supply chain and products 100% carbon neutral by 2030. Apple characterises its promise as distinct from other tech companies, noting that they seek to address the main source of greenhouse gas emissions produced by their contractor companies in the manufacturing of its phones, tablets and computers.⁶⁹ As part of these efforts, Apple has encouraged its suppliers to transition to renewable energy, and increased the amount of recycled material in its products. The company has provided a 10-year roadmap outlining how it intends to lower its emissions,⁷⁰ giving some insight to external evaluators wanting to assess how realistic Apple's climate pledges are.⁷¹

Amazon has been behind the curve compared to the other Big Tech companies, only releasing its carbon footprint report for the first time in 2019. Amazon has promised it will operate on 100% clean energy by 2030 and be net zero by 2040.⁷² The company has launched a 'shipment zero' delivery plan that aims to make shipments net zero by 2050, and has invested 400,000 USD in an electric vehicle startup. Amazon has reported intentions to open 50 recycling plants across its operations, which will reportedly recycle 7,000 tons of plastic film a year; the company also plans to recycle 250 tons of paper used in shipping labels, for use in animal bedding.⁷³ Amazon has also launched the Climate Pledge, inviting other companies to match zero-carbon targets and share their processes and findings.⁷⁴ However, despite its extensive list of promises, Amazon does not have a clear plan and its business model continues to rely on resource extraction (continuing to, for example, sell technology services to oil and gas companies).⁷⁵

67 Reuters Staff. (2020, January 16). Factbox: Big Tech and their carbon pledges. Reuters. <https://www.reuters.com/article/us-climate-change-tech-factbox-idUSKBN1ZF2E7>

68 Atkin, E. (2020, July 20). Fact-check of viral climate misinformation quietly removed from Facebook. Heated.world. <https://heated.world/p/fact-check-of-viral-climate-misinformation?s=r>

69 Apple. (2020, July 21). Apple commits to be 100 percent carbon neutral for its supply chain and products by 2030. Apple Newsroom. <https://www.apple.com/newsroom/2020/07/apple-commits-to-be-100-percent-carbon-neutral-for-its-supply-chain-and-products-by-2030/>

70 Ibid.

71 Sengupta, S., & Penney, V. (2020, July 21). Big Tech Has a Big Climate Problem. Now, It's Being Forced to Clean Up. The New York Times. <https://www.nytimes.com/2020/07/21/climate/apple-emissions-pledge.html>

72 Reuters Staff. (2020, January 16). Factbox: Big Tech and their carbon pledges. Reuters. <https://www.reuters.com/article/climate-change-tech-idUKL4N29L36K>

73 Casey, J. (2020, April 17). Big tech and big power: companies' climate change pledges. Power Technology. <https://www.power-technology.com/analysis/big-tech-and-big-power-companies-climate-change-pledges/>

74 Amazon. (2019). The Climate Pledge. Sustainability. <https://sustainability.aboutamazon.com/about/the-climate-pledge>

75 Day, M. (2020, September 21). Amazon Tries to Make the Climate Its Prime Directive. Bloomberg. <https://www.bloomberg.com/news/features/2020-09-21/amazon-made-a-climate-promise-without-a-plan-to-cut-emissions>



Sustainability efforts beyond Big Tech

Beyond Big Tech companies, many **smaller for-profit and nonprofit initiatives** are also actively transitioning to sustainable tech strategies. The tech sustainability toolbox of smaller tech players shares some similarities with that of Big Tech actors: a number of smaller web hosting companies advertise hosting powered by renewable energy (and, as with Big Tech, this is often made actionable through carbon offset schemes or RECs), and also offer consumer-side services. These include tools that allow clients to assess their website's carbon footprint and provide sustainability certifications.

Optimising the efficiency of technical architectures is another strategy smaller initiatives are using to try and make their web and internet services more sustainable. This involves taking stock of inefficiencies – for example, looking at how much data is being sent and processed between their service and its end users – and seeing how aspects of their services (such as ‘page weight’ and the type of analytics being used) can be tweaked to make them less energy intensive.⁷⁶

But, technologists we spoke to believe **more work needs to be done to first understand where the greatest inefficiencies lie**. Some interviewees emphasised that while IT infrastructure optimisation is important, more efficient or optimised infrastructures cannot on their own ‘solve’ the problems of planetary tech impacts. An energy transition specialist we spoke to argued that as more efficient websites and infrastructures are built, it's essential to pair the drive for more efficiency and technical optimisation with a critical view on economic growth, lest more efficiency paradoxically drive more unsustainable growth.⁷⁷

In addition to interventions focused on minimising carbon consumption in end-user services, smaller for-profit and nonprofit tech enterprises are also thinking more broadly about the environmental impacts of their activities, considering the **different kinds of environmental and climate impacts found across the lifecycle of technology** production and use. This is crucial because, as a group of authors write for the Fieldnotes for an Internationalist Green New Deal (citing Gupta et al⁷⁸), “the overall carbon output and waste profile of the tech industry has predominantly moved from operational spaces like data centres, to hardware manufacturing and system infrastructure...as much as 86% of the life-cycle carbon

⁷⁶ Smith, H. (2022b, February 16). Figuring out a model for applying climate justice to websites. The Green Web Foundation. <https://www.thegreenwebfoundation.org/news/figuring-out-a-model-for-applying-climate-justice-to-websites/>

⁷⁷ This paradox is referred to as ‘Jevon's paradox’. See Alcott, B. (2005). Jevon's paradox. *Ecological Economics*, 54(1), 9–21. <https://doi.org/10.1016/j.ecolecon.2005.03.020>

⁷⁸ Gupta, U., et al. (2021). Chasing Carbon: The Elusive Environmental Footprint of Computing. In *Proceeding – 27th IEEE International Symposium on High Performance Computer Architecture*, HPCA 2021. IEEE Computer Society. <https://doi.org/10.1109/HPCA51647.2021.00076>



emissions from end-user devices such as an iPhone 11 occur during the manufacturing process.”⁷⁹

Sustainability proponents in different tech spaces are now observing the need to bring tech sustainability practices in line with climate justice. As Green Web fellow Hanna Smith writes, “CO2 emissions are a symptom of deeper problems...the underlying causes need to be addressed in the right way so they stay fixed.”⁸⁰

Opportunities

In the Opportunities sections here and that follow throughout this work, we share potential avenues of action, inquiry and urgent work for digital rights funders and practitioners who are exploring intersections with climate and environmental justice.

Opportunity

Strengthen circular approaches to tech

Tech movements and communities have been creating and promoting models for technology production and use which incorporate more holistic understandings of their environmental impact.

For example, in the last decade, **the right to repair movement** has pushed for “the transition to collaborative and circular consumption of electronics” and have sought to “motivate and promote the emergence of local autonomous open platforms to reuse electronics.”⁸¹ Right to repair initiatives take as a starting point the assumption that the problems of sustainability lie not just in the carbon consumption of existing infrastructures and devices (e.g. data centre operations or smart phone use) but in the various forms of extraction that occur across the broader value chain of technology production and use.

⁷⁹ Entry on Digital Infrastructures in the Field Notes Towards an Internationalist Green New Deal project (2022) <https://internationalistgreennewdeal.org/topic/digital-infrastructures>

⁸⁰ Smith, H. (2022a, January 8). Reframing the #LetsGreenTheWeb campaign in a climate justice context. The Green Web Foundation. <https://www.thegreenwebfoundation.org/news/reframing-the-letsgreentheweb-campaign-in-a-climate-justice-context/>

⁸¹ See: Electronic Reuse Federation (<https://www.ereuse.org/about/>). Other initiatives include the Restart Project (<https://therestartproject.org/>), Electronics Watch (<https://electronicswatch.org/en/>) and Right to Repair Europe (<https://repair.eu/>). The Association for Progressive Communication has published A guide to the circular economy of digital devices with case studies, available at: <https://www.apc.org/en/pubs/guide-circular-economy-digital-devices>



What is the 'Right to Repair' movement?



As device manufacturers often void warranties if consumers try to fix them on their own or with the help of unofficial repair outfits, right to repair initiatives advocate for regulation to open up devices and make it easier for consumers to repair them. Alongside this work, these initiatives also foster spaces where people can come together and learn to go around the 'walled gardens' that tech companies create within their devices.

Relatedly, initiatives have arisen to offer consumers **more ethical choices around technology consumption**. Fairphone is an example of a company that produces an easily-repairable product, and that offers transparency around its supply chains.⁸² However, smaller initiatives like Fairphone face an uphill battle in technology adoption when squared off against Big Tech companies, having only a fraction of the resources and reach that larger commercial actors do – a disparity that becomes an ever-more important concern when considering the current investment push by governments and corporations in technocratic climate mitigation and adaptation technologies (like the carbon offsets explored above), or in speculative technologies like carbon capture, which have yet to demonstrate their benefits.⁸³

An energy transition specialist we spoke to expressed concern that these new tech investments create opportunities for large actors in the commercial tech sector to **consolidate further**, with the effect of further marginalising smaller actors in the tech space. Interviewees we spoke to highlighted the importance of creating **economic incentives to consumers** to help these kinds of smaller initiatives find purchase within the broader consumer landscape. Our interviewees argue that this is a problem that must be addressed by both the DR and EJ-CJ movements.

82 FairPhone: <https://www.fairphone.com/>

83 Schlosberg, M., & Hart, P. (2021, July 20). Top 5 Reasons Carbon Capture And Storage (CCS) Is Bogus. Food & Water Watch. <https://www.foodandwaterwatch.org/2021/07/20/top-5-reasons-carbon-capture-and-storage-ccs-is-bogus>



Opportunity

Challenge greenwashing and push for greater transparency and accountability at the intersections of Big Tech, Fossil Fuel, and polluting companies

Exposing **disingenuous efforts** towards justice has been a long-running priority in CJ-EJ work. Our interviewees argue the same energy must be applied to tech companies' **climate and sustainability pledges**. The sustainability experts we spoke to throughout our research argue that while the pledges and practices of sustainability being touted by Big Tech companies represent an important move, it is essential to keep a **critical eye** on what is really happening, an objective which parallels the DR field's ongoing efforts to bring **transparency** to corporate practices relating to issues around privacy, data protection, content moderation, and harassment.⁸⁴

Greenwashing thrives in an environment of information asymmetry. As such, a key facet of challenging greenwashing is gaining access to information that can allow governments and civil society actors to **verify the claims of tech companies** instead of relying on tech companies themselves to self-report. At a sectoral level, tackling the opacity and inconsistency of tech sustainability practices will require greater access to data, clear standards around carbon accounting and emissions calculations, and wider accessibility of emissions-counting software.⁸⁵

A sustainability expert we spoke to flagged the idea of equipping small and medium companies in the supply chains of Big Tech companies to undertake their own emissions accounting. By shining a light on different links of the **supply chain**, civil society, governments and citizens would have access to more granular information that would enable them to assess the accuracy of Big Tech emissions reporting. This process could also build broader awareness around areas of opacity in emissions accounting.⁸⁶ This interviewee stressed that “if we want to empower people to hold people to account, we need transparency beyond what’s regulated.”⁸⁷

84 To that end, efforts under way on the climate side include the Corporate Climate Responsibility Monitor 2022 (<https://newclimate.org/2022/02/07/corporate-climate-responsibility-monitor-2022/>). The Greenpeace Click Clean Scorecard <https://www.greenpeace.org/usa/fighting-climate-chaos/click-clean/> (last published in 2017) offered insights into corporate tech sustainability plans, but more recent and granular data is necessary to assess recent moves. Interviewees argue that to be as useful as possible, such scorecards must judge how these sustainability practices stack up in light of broader environmental concerns around extractivism. A corollary on the DR side is the Ranking Digital Rights Big Tech Scorecard (<https://rankingdigitalrights.org/index2022/>). Scorecards and assessments that incorporate environmental and digital rights indicators within one rubric are more difficult to find – we address existing work and needs in this area in one of the Opportunity sections, which explores how impact assessment frameworks can holistically account for human rights, digital rights, and the planetary impacts of technology.

85 Interviewee #15

86 Ibid.

87 Ibid.



Opportunity

Foster solidarity between social justice groups, communities impacted by Big Tech, and digital rights actors through a justice lens on tech work

“We’re using so much energy to run the internet; at the same time in the US there are communities of Black and Brown folks who can’t get consistent electricity or heating. So just zooming in more on **whose problem we’re trying to solve** is important. I don’t want to solve Microsoft’s clean energy problem. I want to think about these layers of inequality and how we solve problems for folks who are bearing the brunt of this.”⁸⁸

Importantly, while Big Tech promises may be vague, sustainability practices contested, and transparency lacking, the **harms Big Tech has caused to communities are readily apparent** – and environmental/climate justice and intersectionality-oriented social justice groups have been actively pushing back against Big Tech’s practices.

- + In the US, tech worker groups such as Amazon Employees for Climate Justice call out **corporate greenwashing** being conducted by their employer at a national level,⁸⁹ and groups like the Athena Coalition⁹⁰ and The People’s Collective for Environmental Justice⁹¹ have been working together with Amazon workers and impacted communities to bring attention to the company’s **dangerous and precarious labour practices**, as well as the environmental harm done to poor Black communities and communities of colour in the US.
- + Transnationally active tech worker groups such as the Tech Workers Coalition⁹² and climate.action.tech⁹³ have helped coordinate climate-related **strikes and walkouts** at Big Tech companies.

88 Interviewee #13

89 Amazon Employees for Climate Justice. (2020, February 17). Amazon Employees for Climate Justice Statement on Jeff Bezos’ Earth Fund. Medium. <https://amazonemployees4climatejustice.medium.com/amazon-employees-for-climate-justice-statement-on-jeff-bezos-earth-fund-bf39f6906589>

90 Athena Coalition: <https://athenaforall.org/>.

91 People’s Collective for Environmental Justice: <https://pc4ej.org/>.

92 Tech Workers Coalition: <https://techworkerscoalition.org/>.

93 Climate.action.tech: <https://climateaction.tech/projects/>.



- + Climate groups and movements such as Extinction Rebellion (international, predominantly global north) and Mosacat (Chile)⁹⁴ are involved in challenging the construction of **new data centres** in different countries.
- + Grassroots, Indigenous-led initiatives like the Center for Interdisciplinary Environmental Justice (US) are developing awareness campaigns and educational resources on **how to counter greenwashing narratives in the tech sector**.⁹⁵
- + The Feminist Green New Deal (international) is a coalition of women's rights and CJ organizations that brings a 'transformative feminist lens' to Just Transition work, pushing back against techno-solutionist approaches to addressing the climate crisis (around technologies such as geoengineering and more).⁹⁶

What unites many of these grassroots initiatives is that they take an **intersectional, social-justice based approach** to their work, foregrounding impacted communities and forging alliances to tackle intersecting issues around racism, colonialism, technological business models, and EJ-CJ issues. This type of social-justice-focused lens – and in particular, social justice in the context of a transition to a sustainable society – has been flagged as an increasingly important guiding star by the climate and environmental actors we spoke to.

Our interviewees argue that it is a priority for DR practitioners to adopt a justice-oriented lens on tech issues and to support climate/environmental justice movements on their already long-running efforts in **holding Big Tech to account**. This observation builds on research conducted by The Engine Room in 2021, which noted a number of barriers to (and opportunities for) collaboration between digital and data rights actors and social justice actors.⁹⁷

Our research indicates that the DR field's **collaboration** with social justice initiatives focused on EJ-CJ issues is nascent, though the DR field has made more explicit connections to social justice issues in recent years.⁹⁸ A number of people we spoke to who are active on data justice and tech issues have also begun actively connecting the dots between data/tech-related extraction and environmental and planetary

94 Movimiento Socioambiental Comunitario por el Agua y el Territorio - Chile: <https://mosacatchile.cl/2020/04/10/presentan-recurso-de-invalidacion-ante-el-sea-contra-cerrillos-data-center-de-google/>.

95 Center for Interdisciplinary Environmental Justice. (n.d.). Anti-Greenwashing Toolkit. CIEJ. Retrieved April 25, 2022, from <http://www.the-ciej.org/anti-greenwashing-toolkit.html>

96 The Feminist Green New Deal: <https://feministgreennewdeal.com/principles/>.

97 The Engine Room. (2022). Strengthening intersectional approaches to data and digital rights advocacy during the pandemic. <https://www.theengineroom.org/wp-content/uploads/2022/01/DDR-Report-26-02-22.pdf>

98 Digital Freedom Fund. (n.d.). Decolonising Digital Rights. Digital Freedom Fund. Retrieved April 25, 2022, from <https://digitalfreedomfund.org/decolonising/>



extraction. As such, our research shows the present moment to be ripe for **fostering increased solidarity** between DR actors and social justice groups taking an intersectional approach to climate and environmental injustices.

Opportunity

Learn from the fossil fuel divestment movement

One area of inspiration for the digital rights field for holding commercial interests accountable comes from the **fossil fuel divestment** movement,⁹⁹ which has pushed companies, individuals, nonprofits, foundations, universities and more to pull out of their investments in oil, coal and gas companies. Fossil fuel divestment has been one of the great successes of the broader climate movement in recent years.

A **bottom-up movement** spearheaded by hundreds of groups around the world, divestment groups push for fossil fuel divestment at universities, banks, foundations, and other institutions. In 2021 alone, student-led groups at Harvard succeeded in getting the university administration to divest its 42 billion USD endowment from fossil fuels,¹⁰⁰ while Fossil Free Netherlands (associated with the larger umbrella organisation 350.org) succeeded in doing the same with ABP, the Netherlands' largest pension scheme.

Several divestment advocates who we spoke to drew **parallels** between the digital rights field's efforts to challenge Big Tech and the climate and environmental movements' work challenging fossil fuel companies. They believe it would be fruitful to identify opportunities to learn from this movement and find cross-cutting issues for collaboration.

Importantly, the divestment movement focuses not just on where to divest but also where to reinvest. Here, divestment activists we spoke to particularly highlight **the role foundations have to play** in supporting environmental and climate justice, especially as foundations reassess their strategies and make climate pledges of their own. As an example, the Wallace Global Fund, who have worked and divesting their funds from fossil fuels, created 'Divest-Invest Philanthropy', which encourages philanthropic institutions to divest from fossil fuels and then reinvest that money in work specifically on climate change.¹⁰¹

⁹⁹ Thorne, M., & Adams, C. (2021, November 30). How internet practitioners can advance climate justice as a core competency. Branch. <https://branch.climateaction.tech/issues/issue-3/internet-practionioners-climate-justice/>

¹⁰⁰ Uyeda, R. L. (2021, December 31). The climate victories of 2021 that put fossil fuels in check. The Guardian. <https://www.theguardian.com/environment/2021/dec/31/climate-victories-2021-activism-shareholder-rebellions>

¹⁰¹ Ibid.



Opportunity

Develop holistic assessments and accountability frameworks for technology's impacts on society and planet

Engineers, energy efficiency experts, climate activists, and policy campaigners we spoke to all highlighted the need to **expand beyond a current focus on assessing and reducing carbon emissions**. They argue for the need to take a more holistic view of technology and its impacts on people and planet when assessing the sustainability of tech and the harms propagated by powerful actors more broadly.

One important way of doing this involves taking the full **'value chain' or lifecycle** of tech production and consumption into account when making assessments of impact in sustainability plans, transparency reports, and in EJ-CJ advocacy. One of our interviewees highlighted that the lifecycle approach opens up opportunities to bring sustainability assessments and human rights/digital rights impact assessments into closer dialogue.

For example, assessing the harmful impacts of a technology from its production onwards – per the lifecycle approach – opens up the opportunity to consider **labour and human rights violations** perpetrated by companies against workers in the tech production process (starting from mining conditions up through factory work, warehouse work, and 'precarious work' tasks such as AI image labelling).

Bridging these different fields is a nascent opportunity: a human rights impact assessment professional we spoke to discussed the enormous work that has gone into simply incorporating digital rights concerns into more traditional human rights **impact assessment frameworks**. They conceded, however, that there are opportunities for increased collaboration through the establishment of shared indicators across digital rights assessment frameworks and environmental assessment frameworks.

Though exploring how to bring together these different frameworks within one (broader) impact assessment approach would require work, some of those we spoke to believe that it could potentially help human rights and sustainability experts push in greater unison for **corporate accountability at the nexus of Big Tech and fossil fuel**. The effort could also provide space to develop a shared lexicon around different kinds of impacts, which surfaced as a need across interviews with both EJ and DR actors.

Toward the goal of a more holistic tech impact assessment approach, the European Green Party has already started employing a lifecycle methodology to assess the environmental impacts of digital devices and tech infrastructures.¹⁰² At

¹⁰² Corm, G. Mep. D., & Sparrentak, K. van. (2021, December 6). Digital



a policy level, this methodology has fed their efforts to integrate environmental/climate issues within digitisation policies in the EU. **Crafting and creating space** to brainstorm more policies at the intersection of EJ-CJ and DR is an important emerging priority.

Opportunity

Promote policy at the intersection of digital and climate/environmental issues

A variety of campaigners are currently looking to **integrate** environmental considerations into digitisation policies and digitisation aspects into environmental/climate policies. We spoke to one campaigner at the EU level, for example, who has been spearheading the inclusion of digitisation issues in climate legislation (and climate/sustainability issues in the context of digitisation issues).

The **promotion of the right to repair** has been a specific area of EJ-CJ and DR policy intersection at the EU level, after campaigners pushed to have it included in broader sustainability discussions and policies. Those we spoke to see many more opportunities to explore at a policy level.

Mining and the use of ‘conflict minerals’ (see box below) for digital technology is another intersection that emerged as having potential for collaborative advocacy. Funders we spoke to discussed how this issue might serve as a pressure point for collaborative action between digital rights and environmental/climate justice actors. It was suggested that raising awareness of the impact of mining, understanding who has the power compared to who is most affected, and how even so-called ‘green minerals’ often rely on harmful supply chains, could lead to effective campaigns targeting tech companies.

technologies in Europe: an environmental life cycle approach. Greens/EFA.
<https://www.greens-efa.eu/opinions/digital-technologies-in-europe/>



Efforts to expand the definition of ‘conflict minerals’ to include minerals used in digital technology

Conflict mineral legislation was originally intended to contain ongoing conflicts financed by profits from gold, tin, tantalum, and tungsten mining in the Great Lakes region of Africa. But there is growing evidence that extraction of the six minerals essential to the renewable energy industry – cobalt, copper, lithium, manganese, nickel and zinc – is also responsible for land rights violations and environmental damage in other parts of the world.

Expanding the definition of ‘conflict minerals’ to include minerals used in renewable energies (and perhaps digital technologies more broadly) could allow for greater oversight over their extraction in vulnerable communities (with the caveat that even existing disclosure requirements are vague and/or rarely prosecuted in cases of non-compliance).¹⁰³ To this end, the European Commission has proposed legislation to cover social and environmental risks for the producers and importers of batteries.¹⁰⁴

Campaigners and policy experts we spoke to point out that crafting policy at the intersection of DR and EJ-CJ requires creating learning opportunities where policy groups working across each area can get up to speed on the other’s area, and understand how they intersect. Making this work sustainable will require **increasing staff capacity** and **crafting programmatic structures** with space for comprehensive exploration of DR and EJ-CJ linkages and the development of cross-cutting agendas.

¹⁰³ Association for Progressive Communications (2022). Brief No. 3. Extractivism, mining and technology in the global South: Towards a common agenda for action. <https://engn.it/climatejusticedigitalrights>

¹⁰⁴ Wouters, R. (2021). Metals for a Green and Digital Europe An Agenda for Action. https://www.wetenschappelijkbureaugroenlinks.nl/sites/wetenschappelijkbureau/files/2021-09/Metals_for_a_Green_and_Digital_Europe_A4_web.pdf#download-pdf



Key Intersection #2:

Access to information and information disorder



Summary: Access to information and information disorder

Lack of access to the internet was repeatedly brought up in our discussions as an ongoing problem - one that can prevent communities from accessing information that could enable them to respond to the climate crisis.

When it comes to climate advocacy, for many, simply getting online - where more and more climate activism is happening - can be a more tangible challenge than confronting other digital rights issues like privacy and surveillance. Without the internet, actors in the climate space cannot fully exercise their rights to access to information and participation; they also remain unable to connect to other regional/global struggles and campaigns.

In particular, data remains an **expensive commodity** on much of the African continent, and data infrastructure can be unevenly distributed, forcing individuals to commute long distances just to access the internet.

Information disorder

In parallel, **climate-related disinformation continues to spread** and grow online - a problem fanned by Big Tech platforms' reluctance to forego digital advertising revenue from climate change denier lobbies and fossil fuel companies. The lack of clear legal mandates has also fostered inaction, allowing Big Tech to pursue 'paths of least resistance' in the form of elaborate fact-checking operations that fail to promptly counter disinformation because they're either too slow, allowing controversial statements to spread while they're being assessed, or only partial, giving offenders the chance to repeat the same cycle.



Access to the internet

In our community calls, participants coming from climate work said that **disinformation campaigns and internet access issues have to be tackled simultaneously**. This intersection was at the forefront for one of our interviewees, who spoke about the lack of investment in internet access for young people and climate activists in Africa. Lack of internet access can make it difficult to participate in multilateral decision-making arenas, to push back against, take control of the narrative around, or even just to contribute to global policies.

“I’m working from home today just to be able to speak to you guys. I had to specially buy a data bundle so we don’t get cut off. But how many young people would be able to do that to share their experience with you?”¹⁰⁵

Confronted with daily struggles for livelihood and wellbeing, issues of data privacy take a back seat. As the youth activist quoted above said:

“...most countries don’t even have any framework for protecting your data – but even having access [to the internet] is so poor that we need to address that before we move to the step of what your data is being used for. If you go and talk to people about data privacy, they’re going to be like, well I don’t have access to the internet.”¹⁰⁶

Conversations on access also led us to thoughtful exchanges about the enduring role of **non-digital modes of communication** like community radio, and the innovative second life Bluetooth/IVR technologies are having in densely forested, low-connectivity regions.¹⁰⁷ An emphasis on bridging the ‘digital divide’ has taken resources away from modes of communication that are still the most accessible in the global south. This insight requires, as one interviewee asserted, “getting real”:

“For a significant number of people, particularly in the so-called ‘developing world’, community radio is still the most accessible communication... If we don’t get real about who has access and how... including women and marginalised communities, then I’m not sure we can piggyback on the advantage that technology gives us.”¹⁰⁸

105 Interviewee #10

106 Ibid.

107 Internet access is unreliable in these areas given the patchy communications infrastructure. Shortwave radio stations fill the information gap to an extent, but news/weather forecasts/crop prices collected via IVR are able to travel further over Bluetooth on even the simplest mobile devices. The Indian organisation CGNet Swara is scaling this work in parts of central India.

108 Interviewee #11



Another, related issue is the **low level of linguistic diversity** on the internet.¹⁰⁹ Once people are online, they need content and communications in languages they can read. Without enabling participation in mother tongues – many of which are dialects without written scripts – the internet is far from achieving social inclusion. As the founder of a voice-based news portal in India said,

“Language is an important part of inclusion – most of the work stops where the internet finishes – the digital needs to be connected to the oral ... Justice starts with inclusion, with listening and solving problems and none of that happens if you keep your world on the internet and call it ‘digital’ and don’t link it with radio or audio.”¹¹⁰

Information disorder

In some areas, the primary issue is not just access itself but also **information disorder and disinformation campaigns** carried out in different online spaces and contexts.

Climate-related disinformation is a longstanding problem perpetuated by fossil fuel companies and other corporate actors; fossil fuel companies have a long history of climate disinformation dating back to the founding of the American Petroleum Institute in 1919, a PR body tasked with convincing the public that oil is good, necessary for progress, and a “good faith partner in the fight against climate change.”¹¹¹

Today, climate disinformation circulates through **commercial online social media platforms, with inadequate content moderation**. A report by InfluenceMap found 51 climate disinformation ads running in the US on Facebook’s platforms during the first half of 2020.¹¹² The ads garnered eight million impressions over a six-month period, and only one of the 51 ads was eventually taken down by Facebook; the remaining 50 ads ran their scheduled course. According to this same report, Facebook has earned a revenue of 68 million USD per year from disinformation ads posted by known climate denier groups.

On the eve of the COP26 meetings in November 2021, an open letter demanded Big Tech leadership tackle climate disinformation by **deplatforming** individuals and

¹⁰⁹ Whose Knowledge. (2022). State of the Internet’s Languages Report. <https://inter-netlanguages.org/en/summary/>

¹¹⁰ Interviewee #9

¹¹¹ Atkin, E., & Legum, J. (2021). Top climate leaders will participate in Big Oil-sponsored ‘sustainability’ conference. <https://heated.world/p/top-climate-leaders-will-participate>

¹¹² InfluenceMap. (2020, October). Climate Change and Digital Advertising. <https://influencemap.org/report/Climate-Change-and-Digital-Advertising-86222daed29c6f49ab2da76b0df15f76#1>



organisations instead of relying on **piecemeal fact-checking** policies that delay action. Facebook, for example, has chosen to exempt climate disinformation from fact-checking by deeming such content as ‘opinion’, and the company continues to make money from ads and commentary attacking the credibility of climate science. The open letter states that corporate digital platforms’ “... lack of true oversight, accountability, and transparency to eliminate climate disinformation significantly harms society’s ability to meet Paris commitments and beyond.”¹¹³

Digital rights engagement with climate disinformation

Both digital rights and environmental/climate justice practitioners are exploring how **algorithmic techniques**, including behaviorally targeted ads, and Big Tech business models contribute to the spread of climate disinformation online. Those we interviewed are asking if it’s possible to disrupt the **incentives** behind **climate disinformation spread** on social media platforms like Facebook and Twitter.

Given that their work tends to challenge powerful interests – particularly those of governments and well-resourced companies – EJ-CJ actors have always tended to face a disproportionate amount of disinformation and hate speech campaigns against them, but this has been dramatically exacerbated in the age of Big Tech.

Alongside the obvious problems that widespread disinformation causes, the increased scale has brought **new urgency to tackling security and safety risks**, which has led EJ-CJ actors to seek out partnerships with digital rights actors in order to build their digital security capacity (more on this in the next section: Key Intersection #3, Safety and Defence). One Brazilian DR practitioner recounted how the reign of President Jair Bolsonaro

“...changed everything in terms of digital rights because political campaigns are based on disinformation and hate speech, and creating fake news about these social movements, especially environmental organisations, generated so much hate online in Brazil that after these elections when I went to an environmental organisation they were very open about digital rights and digital security.”¹¹⁴

113 #TogetherWeCAN – The Conscious Advertising Network. (2021, November 10). Open letter: Global action required now to tackle the threat of climate misinformation and disinformation. <https://consciousadnetwork.medium.com/open-letter-global-action-required-now-to-tackle-the-threat-of-climate-misinformation-and-7064278b5b77>

114 Interviewee #18



Opportunities

Opportunity

Engage constructively in dialogue, and take action, around persistent internet access challenges

Interviewees argue that it's important for DR advocates to continue pushing for just and widely available community access to **telecommunications infrastructure**. In the last decade plus, digital rights advocates have fought to reform telecommunications policy to enable communities to autonomously make decisions about their telecommunications infrastructure through, say, decisions to implement their own broadband, local mesh and/or wireless networks.¹¹⁵

DR advocates have also been exploring the ways that certain forms of internet access – for example highly controlled and surveilled access through Facebook's Free Basics programme – impinge on digital rights.¹¹⁶ Now there's an opportunity to explore more deeply how restricted and controlled internet access influences the availability of essential information about environmental and climate issues.

When it comes to supporting EJ-CJ movements in accessing communications platforms, there's an opportunity for DR funders to make room for budget lines specifically geared to supporting internet access for **virtual attendance of international meetings** (such as COP) by those who might need that support. This type of 'data pack funding' will create concrete pathways for youth and others to participate in, connect with, and contribute to global policy.

Opportunity

Create more inclusive platforms that go beyond traditional literacy

The internet is a resource only when it is accessible, and **linguistic accessibility** is still not a consistent priority for digital rights advocates, our interviewees noted. Civic participation has clear linkages with environmental justice goals, particularly for Indigenous and minority communities at greater risk of repression by

¹¹⁵ See: Byrum, G. (2019). Building the People's Internet. Urban Omnibus. <http://urbanomnibus.net/2019/10/building-the-peoples-internet/> and Byrum, G. (2021). To build lasting digital equity, look to communities. The Hill. <https://thehill.com/opinion/technology/545337-to-build-lasting-digital-equity-look-to-communities/> For more on community networks, visit https://www.apc.org/en/tags/community-networks_via_Association_for_Progressive_Communications.

¹¹⁶ Panigrahi, S. (2015, December 29). Millions of Indians Slam Facebook's 'Free Basics' App. Global Voices. <https://globalvoices.org/2015/12/29/millions-of-indians-slam-facebooks-free-basics-app/>



governments working closely with extractive industries.

As such, there is a window for innovating on digital platforms that rely less on reading and writing, and incorporate **oral participation** instead. For example, organisations like CGNet Swara¹¹⁷ are deploying Interactive Voice Response (IVR) technology to lower barriers to participation in democratic media processes ranging from election campaigns to public health drives.

By broadening the ways people can engage digitally, greater opportunities to hear from more diverse voices – in terms of both communities impacted by climate change and EJ-CJ movement actors – will emerge in the digital spaces where environment and climate justice conversations are being held.

Opportunity

Challenge disinformation through further research, literacy, and creative techniques

EJ-CJ activists we spoke to see many areas where collaboration with DR practitioners would strengthen their efforts against climate disinformation and misinformation. This could take the form of using DR activists' knowledge of technology to target and bring to light instances of **greenwashing**, and to change the message. Wikimedia Foundation¹¹⁸, for instance, is now working with a West African organisation to train young people in a few African countries to run Wikipedia **edit-a-thons**¹¹⁹ and take control of some of the narratives around the global south and climate issues.

In a more **subversive** approach, a disinformation researcher we spoke to talked about the potential power of harnessing the (problematic) systems themselves to shift narratives and achieve more just ends. This would stand in contrast to many current communications approaches, which rely on traditional strategies to get their messages out. This disinformation researcher said,

“We have to change the information environment. We have to break up these companies, put better people in place, and change these platforms' policies ... that's the system we want but we've got to fight for climate justice with the system that we have. We have to be pragmatic.”¹²⁰

117 CGNet Swara: <http://cgnetswara.org/>.

118 Wikimedia Foundation: <https://wikimediafoundation.org/>.

119 “Edit-a-thon” at Wikipedia: <https://en.wikipedia.org/wiki/Edit-a-thon>

120 Interviewee #13



In its brief on the impact of disinformation on environmental movements (published alongside this report),¹²¹ APC identified a need for more collaborative and intersectional research to better understand how data and **algorithms** are deployed against land defenders. **Media and information literacy** (MIL) campaigns, as well as advocacy for affordable and universal access to the whole internet, especially for elderly, Indigenous and remote communities affected by **disinformation spread by word of mouth**, are another two recommendations from APC that resonated with the themes raised by our interviewees. In the next section of the report, we look more closely at the need for digital security efforts to help EJ-CJ movements deal with the ramifications of harassment, targeting, and related digital threats associated with disinformation campaigns.

¹²¹ Association for Progressive Communications (2022). Brief No. 4. Addressing the impact of disinformation on environmental movements through collaboration. <https://engn.it/climatejusticedigitalrights>



Key Intersection #3:

Safety and defence

Summary: Safety and defence



With **new laws banning protest and intensified surveillance** against climate movements around the world, the climate and environmental justice practitioners we've spoken to have expressed deep concern about the ability of their communities and movements to protest and push back against those perpetrating harm. Figures released by Global Witness in late 2021 show a rising tally of environmental and land defenders killed for their involvement in conflicts with mining companies, rebel groups, and governments.¹²² Much of the targeting of activists has taken place via digital platforms where they're first identified, subjected to trolling, in some instances doxxed, and in cases involving powerful opposition, killed. This scenario means that safety (and digital security) is now a fundamental precondition to continuing EJ-CJ work.

Criminalisation of climate activism

State repression of journalists, communicators, and increasingly 'regular citizens' who are resisting enclosure of common lands for extraction, or criticising government inaction in addressing the climate crisis, is growing at an unprecedented rate. Conditions that allow for **non-violent civil disobedience**, both in-person and digitally, are also not uniformly present across the world: protesters in Europe might, for example, be able to conduct confrontational rallies and street strikes that, if replicated in other parts of the world, could result in arrests at best and brutal police retaliation at worst.¹²³ For example, an Article 19 report focused on

¹²² Watts, J. (2021, September 12). Murders of environment and land defenders hit record high. The Guardian. <https://www.theguardian.com/environment/2021/sep/13/murders-environment-land-defenders-record-high>

¹²³ This distinction is fast wearing thin however. Last year, UK Home Secretary Priti Patel tried to criminalise Extinction Rebellion's direct actions - "so-called eco-crusaders turned criminals" - as extreme, a redefinition that would subject the organisation to terrorism charges, but that hasn't yet happened (as of April 2022).



Brazil highlights how most cases of violence against reporters and activists involve state actors – both elected politicians and government employees.¹²⁴

A citizen data researcher we spoke to identified a **growing convergence** between data journalists, environmental activists, and digital rights activists who are either **silenced by defamation lawsuits** or by **insurmountable amounts of litigation**, where they no longer have the resources to continue speaking out. According to this researcher, there is room for the DR and EJ-CJ fields to support one another in this area, and for grantmakers to consider how to contribute to the **legal defence** of communities at the frontlines:

“...with the criminalisation of the people who speak out and the legacy of this intersection (between data activists and environmental actors)... there is a growing but rare convergence – they could really help each other strengthen their strategy, but they don’t have the time to explore synergies and are being isolated.”¹²⁵

One interviewee pointed to the big **power differentials** between those who are being attacked and arrested, and their institutional opponents. Armed with unlimited resources and networks, these opponents can continue to keep the pressure on activists until they falter or withdraw:

“One partner in Uganda got arrested because they were standing up against oil and gas. The amount of repression when people are speaking up against what is in their right to speak out about – the power and inequity is a huge issue. And those are the people we really need to lift the lid on what is actually going on.”¹²⁶

Security threats and surveillance from opponents of communities fighting for land rights and environmental/climate justice

The **persecution** of those resisting land acquisition and forest encroachment by extractive industries has been going on for a long time, but digital tools’ ability to **follow, surveil, and collect information without individuals’ knowledge** has expanded governments’ and companies’ abilities to intimidate, harass, and in some cases even to murder, dissenters.

Interviewees we spoke to highlighted continued issues with **safety and security**

¹²⁴ ARTIGO 19. (2020). Violações à Liberdade de Expressão–Relatório Anual 2019 e 2020. https://artigo19.org/wp-content/blogs.dir/24/files/2020/11/violacoes2019-20-WEB_R02_low.pdf

¹²⁵ Interviewee #7

¹²⁶ Interviewee #6



for environmental defenders and allied groups and the risks these pose to their ability to thrive and continue their work.

One interviewee, an environmental activist with roots in food justice and feminist youth politics, recalled how the early months of the Covid-19 pandemic was a time of increased threats against their partner organisations in the global south. Instances where threats escalated into **digital surveillance and coordinated attacks** were common:

“Our partners were receiving threats and being surveilled due to their land defence work, and it was happening through digital means. Their phones were intercepted, and through computers as well.”¹²⁷

For them, this drove home that environmental justice activism as a whole needs **more support from the digital rights and security communities**, given that knowledge of digital security and harm reduction in the environmental field remains uneven.

A fossil fuel divestment specialist we interviewed said that they have faced ongoing challenges with establishing **secure communications** between themselves and their partner organisations engaged with pushing back against mining corporations. They’ve worked to give these partners security recommendations around safer communication tools, but feel an acute need to address the problem of security in a **more structural rather than ad-hoc way**. They’ve done outreach with other climate organisations and have been surprised to find that larger organisations are also struggling in this area. From their perspective, this is an issue across the board.

Our discussions with practitioners from both DR and EJ sectors show that digital security serves as an entry point into thinking about obvious intersections between digital rights and environmental justice issues. The aforementioned divestment specialist, as well as other EJ-CJ actors and digital rights advocates we spoke to, argue that safety and digital security, especially where it is understood as a form of care, should be understood as a **precondition for being able to continue to fight** for climate/environmental justice. The divestment specialist told us “we are trying to uphold a duty to care, to take responsibility for digital security issues and looking at how we can actually and structurally put more resources into that.”¹²⁸

127 Interviewee #4

128 Interviewee #6



Digital security in the Digital Rights field

“I start workshops [with environmental activists] asking what security means for them. Many of those moments are talking about their daily lives, and sometimes that’s just waking up in their bed with five to ten men holding them at gunpoint when they wake up. It’s their lives, not just activism.”¹²⁹

In recent years, the digital rights field and allied funders have **invested extensively in digital security** for human rights defenders and social justice movements. These investments have included providing funding for **capacity building**, such as digital security training and awareness-raising efforts and the development of guides about best practices for things like communications and data storage.

More recently, a number of digital rights organisations have developed rapid response mechanisms to help better coordinate emergency assistance. These include **help desks and helplines** offering support in countering and mitigating harms related to online harassment, DDoS attacks, phishing and malware, and censorship circumvention.¹³⁰ In response to a need for collective approaches to digital security, the digital rights field has also worked to institutionalise best practices through the development of **organisational security guidelines and practices**.¹³¹ Responding to a need for support that is rooted in movements and communities and that addresses long-term issues, there’s also been an effort to set aside resources for **long-term accompaniment** to organisations facing regular threats and **mentorship programmes** to grow a new generation of security experts from diverse communities around the world.

But even as the digital rights field has developed a more systemic approach to digital security issues in recent years, the **threats themselves have continued to evolve**, with organisations around the world reporting **increased attacks** – both digital and physical.

Keeping up with digital security needs requires continued **time, attention, and financial resources**. Furthermore, those working directly with land/environmental defenders and climate movements identify an enormous need for more outreach and support for climate movements and environmental organisations who

¹²⁹ Interviewee #18

¹³⁰ These include helplines working across timezones and offering services to different kinds of movements and communities across civil society (see Access Now’s Digital Security Helpline at <https://www.accessnow.org/help/>), as well as ones focused more on addressing specific needs, such as addressing gender-based violence manifested in digital spaces (see Digital Defenders Partnership’s work on Feminist Helplines at <https://www.digitaldefenders.org/feministhelplines/>).

¹³¹ For examples, see: The Engine Room’s toolkit for organisational security practitioners (<https://www.theengineroom.org/new-toolkit-orgsec-practitioners/>) and Safetag’s professional audit framework (<https://safetag.org/>).



are still struggling to grasp what can be done to address new forms of safety challenges. A digital security trainer working with Indigenous communities in Brazil finds that **long-term support is still mostly missing**:

“A lot of big organisations and funders send digital rights activists to work with Indigenous communities, and they come and do the workshop and just leave. It gives them the sense that no one wants to stay there and support them. If you want to support digital rights inside environmental activists, you have to support programmes for people to stay longer in those communities because no one will learn in one day.”¹³²

Opportunities

Opportunity

Support the long-term digital security capacity of climate movements/land defenders

As EJ-CJ movements move to address the digital insecurity issues they face, they express a need for capacity building centred on the security and safety **priorities of land rights defenders, environmental defenders, and climate movements**. Importantly, many environmental organisations and collectivities have already taken steps both towards understanding their own needs and those of their networks, and towards trying to address them.

Currently, one of the most important priorities emerging from our research is a need for environmental and climate movements and organisations to move from ad hoc to **systemic, long-term security approaches**.¹³³ One part of this is about implementing organisational security practices. Another is about understanding how to foster effective security culture across distributed networks.

To do so will require ongoing resources and attention, but – as is commonly reported by civil society organisations more broadly – at the moment, EJ-CJ as well as DR actors find it difficult to obtain **funding** that covers **ongoing tech and**

¹³² Interviewee #18

¹³³ The need for more movement-based and long-term digital security support for the civil society sector has been argued for in Kazansky, B. (2016). Digital Security in Context: Learning How Human Rights Defenders Adopt Digital Security Practices. Report, Tactical Tech, Berlin, Germany. Available at: <https://cdn.ttc.io/s/secresearch.tacticaltech.org/pages/pdfs/original/DigitalSecurityInContext.pdf> and The Engine Room. (2018). Ties That Bind: Organisational Security for Civil Society. Report, The Engine Room for the Ford Foundation, New York. Available at <https://www.theengineroom.org/wp-content/uploads/2018/03/Ties-that-Bind-Executive-Summary.pdf>



security needs. Allocating resources for the **maintenance** of digital infrastructure is a particular challenge, including the costs of upgrading both software and hardware.¹³⁴ EJ-CJ actors we spoke to ask for more assistance and funding from DR groups and grantmakers, in order to develop institutional security policies and maintain the infrastructure needed to keep their groups secure.

Said one digital security trainer:

“Funders should offer more opportunities to these organisations to sustain and maintain what they already have ... when I make a plan or assessment for digital infrastructures for environmental organisations they need to create more capacity inside their organisations because the thing they are creating is not just for one year.”¹³⁵

Digital security trainers also highlighted the importance of creating **long-term technical capacity** within environmental organisations: “If you create capacity within those inside the organisation and build on the capacity that’s already there, then they will know better what they need, and technical staff will stay longer.”¹³⁶ As DR practitioners and funders engage more with environmental and climate movements, one of the things they can bring to the table is **expertise, contacts and resources** that can help those movements with their digital security needs.

Opportunity

Provide legal support and fight against criminalisation

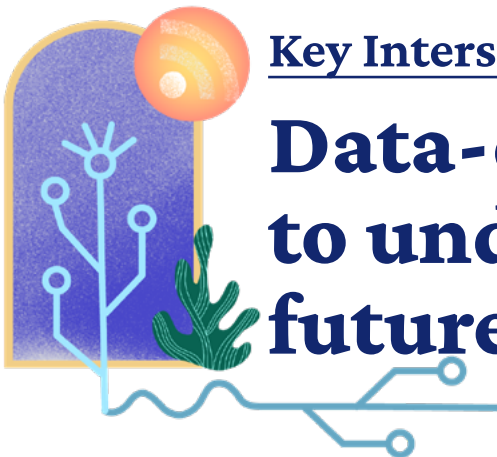
EJ-CJ actors we spoke to highlighted how often environmental defenders and environmental organisations have to face off against corporations in court – but that grants do not often cover legal support. They recommend that **legal defence** be considered an integral part of the defence of EJ-CJ communities: “If a project is high-risk high-gain, the funder should account for the high risk”.¹³⁷ Digital rights funders exploring this intersection should be mindful of this need and see the opportunity to provide more holistic support for projects at the DR and EJ-CJ intersection.

¹³⁴ Baker, S. (2020). Developing an impact framework for organisational security: What we learned. The Engine Room. <https://www.theengineroom.org/developing-an-impact-framework-for-organisational-security-what-we-learned/>

¹³⁵ Interviewee #18

¹³⁶ Ibid.

¹³⁷ Interviewee #7



Key Intersection #4:

Data-driven monitoring to understand current and future environments

Summary: Data-driven monitoring



For decades, scientists, policy experts and communities have **collected and analysed data** for the purpose of monitoring and tracking changes in the climate and environment. This data has been used to push for new regulation, set climate targets, and end environmental harms affecting different communities around the world.

More recent technological developments – including the widespread availability of digital data, cheap sensors, and ‘smart’ infrastructures – have opened up new possibilities in the kinds and the amounts of data that can be collected and in the actors that can collect it. Different kinds of climate- and environment-related data **collection efforts** can now be found across a range of sectors, including commercial, governmental, and civil society.

How these collection efforts are organised varies a lot: some are stewarded by communities at a grassroots level, while others are spearheaded by academic, governmental, and commercial bodies.

In our research, the responsible collection, sharing, and stewarding of data emerged as a priority concern.

Citizen sensing and community-generated environmental data

There is currently a wide array of community-led initiatives around the world collecting and sharing data in order to monitor air, water and soil quality, monitor biodiversity loss, and defend local communities against extractive companies.

These kinds of initiatives **facilitate engagement** on environmental and climate issues beyond commercial, government, and academic spheres, allowing for more



societal engagement with environmental and climate governance.¹³⁸ Initiatives have distributed low-cost sensors to inhabitants of cities and rural areas,¹³⁹ provided drones to local communities to enable them to observe and document perpetrators of ecosystem destruction (such as oil contamination and deforestation), and equipped trees with auditory sensor networks to observe changes to the ecosystem.¹⁴⁰

Communities have **used these technologies to fight back** against polluting and land-grabs by fossil fuel companies, bringing hyper-local knowledge of harms – augmented with digital data – to arenas where they can hold companies to account.¹⁴¹ (We should note, as explored later, these technologies can bring with them data privacy and surveillance risks, which should be carefully weighed.¹⁴²)

In our research, people involved in citizen sensing initiatives said that one of the most important priorities for this field is to understand how collected data might be **shared and stewarded in the most responsible and just way**, and also **leveraged most effectively** for environmental and climate governance efforts.¹⁴³ Additionally, they raised the importance of understanding that tech and data use should be seen as **secondary to community goals and needs**, rather than an end in and of itself.

Where there is a plan to introduce tech into a community, interviewees emphasised the **need to be mindful of how it is done**, and to make sure that the push for adoption of tech tools is not done in an unjust way. They highlighted a number of examples where international climate/environmental and tech-driven actors came into local communities pushing the use of sensor technology that could potentially put local communities at risk.

Those we spoke to also observed that **a tech-first approach** could limit the

¹³⁸ CIVICUS, Wingu and The Engine Room. (2015). DataShift. Float Beijing: citizen-generated data on air quality. <http://civicus.org/thedatashift/wp-content/uploads/2015/07/Float-Beijing-case-study.pdf>

¹³⁹ See Suman, A.B. Striving for Good Environmental Information: Civic Sentinels of Oil Pollution in the South of the North, 17/0 Law, Environment and Development Journal (2022), p. x, available at <http://www.lead-journal.org/content/a1711.pdf>

¹⁴⁰ The Smart Forests project, led by Jennifer Gabrys at the University of Cambridge, explores this area of intervention. See: Gabrys, S. G., Jennifer. (n.d.). Smart Forests. Department of Sociology at the University of Cambridge. <https://smartforests.net>

¹⁴¹ (Berti Suman, Schade & Abe, 2020).

¹⁴² Lippincott, M., & Dosemagen, S. (2015). Chapter 2: The Political Geography of Aerial Imaging. In Drones And Aerial Observation: New Technologies For Property Rights, Human Rights, And Global Development. New America's International Security Program and Open Technology Institute. <http://drones.newamerica.org/primer/Chapter%202.pdf>

¹⁴³ A priority reflected also in the findings and advocacy goals of groups such as the Global Indigenous Data Alliance (<https://www.gida-global.org/>) and the Open Environmental Data Project. See Williams, E. (2021). Environmental Data as a Public Good <https://www.openenvironmentaldata.org/blogs/environmental-data-as-a-public-good>



longevity of environmental monitoring projects: “If you build civic monitoring initiatives around the tech, at some point they will fail. Social interest will drop because you started from the tech and found the problem and applied it to a given community.”¹⁴⁴

In the legal sphere, one of our interviewees (who has conducted work supporting legal cases against fossil fuel companies) recalled that the introduction of data generation and collection technologies such as drones in the communities they work with was “seen as a potential turning point”¹⁴⁵ – a tool to showcase local knowledge and corroborate testimonies and experiences. But while high-tech and quantitative data collection instruments might be perceived as more scientifically sound, they found that **human testimony and oral knowledge** was often just as, if not more, important: “sensor data is often the first element to be challenged in legal settings,” they said; “some judges have shown to be more sympathetic to direct community testimony.”¹⁴⁶

Relatedly, environmental data practitioners we spoke to said that amid the societal drive to collect ever-more data, **the problem is often not a lack of data but other factors**: for example, data might exist, but not be easily accessed; or it might be accessible, but not recorded in a standardised way that would enable it to be used widely in environmental and climate advocacy work.

Much of the data collected by governments and corporations on climate and environment remains in closed governmental or commercial databases. As a result, many efforts now focus on increasing data availability through ‘**open**’ **publicly available databases**, as well as the creation of universal data standards.¹⁴⁷ The opening up of data is a pathway to creating a ‘data commons’ – a publicly stewarded, non-commercial resource available for all who might make use of it.¹⁴⁸

Here too, however, care needs to be taken to avoid unjust dynamics – representatives of local community initiatives that we spoke to report being pushed to share

¹⁴⁴ Interviewee #7

¹⁴⁵ Ibid.

¹⁴⁶ To read more about how citizen-collected evidence of environmental harm stands up in court, see: Berti Suman, A.B, Schade, S., & Abe, Y. (2020). Exploring legitimization strategies for contested uses of citizen generated data for policy. In B. J. Richardson (Ed.), From student strikes to the extinction rebellion: New protest movements shaping our future (Special issue ed., Vol. 11, pp. 74–102). Edward Elgar Publishing Ltd. <https://doi.org/10.4337/9781800881099.00008> and Berti Suman, A., & Schade, S. (2021). The Formosa Case: A Step Forward on the Acceptance of Citizen-Collected Evidence in Environmental Litigation?. *Citizen Science: Theory and Practice*, 6(1), 16. DOI: <http://doi.org/10.5334/cstp.367>

¹⁴⁷ Longdon, J. (2020). Environmental data justice. *The Lancet Planetary Health*, 4(11), e510–e511. [https://doi.org/10.1016/S2542-5196\(20\)30254-0](https://doi.org/10.1016/S2542-5196(20)30254-0)

¹⁴⁸ Williams, Dosemagen, Hoeberling. (2021). Opportunity Brief: Environmental Data as a Public Good. <https://www.openenvironmentaldata.org/research-series/environmental-data-as-a-public-good>



their locally-collected data with international initiatives seeking to aggregate data into common databases.

One DR advocate we interviewed echoed this **need for caution**: “the concept of open data is accepted as a general good. But it may end up containing very **private data**, such as satellite imagery archives, [which would allow outsiders] to see land use by communities that they maybe wouldn’t be comfortable with.”¹⁴⁹ As the Open Environmental Data Project writes: “For communities that have experienced historical injustices and live the realities of continued injustices, the unrestricted opening of data can foster particularly significant harm.”¹⁵⁰

Per one example shared with us, an open street map in India published drinking water locations for people needing clean water; **this data was then used by corporations** to buy up land and water rights in the area. In another case we learned about, sensors used by an environmental group to collect data about ecological changes in a forested area were **misappropriated to conduct surveillance** by antagonistic actors, who went on to violently suppress the local Indigenous community.

Initiatives stewarded by Indigenous-led groups and rights defenders in different regions of the world argue that while international environmental projects push for global databases of data and hope that local communities can feed into them, it can be equally important, in certain contexts, for data to remain only locally accessible and, crucially, stewarded by the local community.

Environmental data in the context of smart cities and infrastructures

Environmental data collection efforts now also occur in the context of **sensor-driven ‘smart cities’ and ‘smart homes’**. The proponents of these sensor technologies claim that the ability to continuously collect and adapt to data about the environment promises to make the infrastructures that power homes, streets, and public spaces more adaptive, efficient and sustainable.

As commercial and governmental investment has increased in this area in the last decade, proponents of these technologies have also sought to incorporate more and more data generated and collected by **inhabitants and consumers**, touting potential sustainability benefits here as well.¹⁵¹ ‘Smart’ meters that track energy

¹⁴⁹ Interviewee #2.

¹⁵⁰ (Williams, 2021) Williams, Dosemagen, Hoerberling. (2021).

¹⁵¹ Craglia, M., & Granell Canut, C. (2014, June 17). Citizen Science and Smart Cities. JRC Publications Repository. <https://publications.jrc.ec.europa.eu/repository/handle/JRC90374>; Powell, A. (2021) Undoing Optimization. Yale University Press; and: Zandbergen, D., & Uitermark, J. (2020). In search of the Smart Citizen: Republican and cybernetic citizenship in the smart city. *Urban Studies*, 57(8),



consumption in individual homes, for example, are seen as a way to measure individual and family carbon footprints, providing a way to ‘nudge’ inhabitants towards greater energy efficiency, while ‘smart’ energy grids at the city or regional level could theoretically respond more quickly to fluctuating energy needs and make better use of renewable energy.

But it’s unclear to the energy experts we interviewed to what degree smart grids, smart meters, and the prospect of equipping city infrastructure with sensors actually do represent an energy efficiency win; much of the evidence needed to support the claims of governments and commercial actors remains to be shown.

And though proponents of ‘smart city’ initiatives also cite the collection of sensor data on pollution, air and water as a big plus (including data collected through citizen-led initiatives located within areas covered by smart city initiatives), for interviewees we spoke to **it’s unclear to what degree municipalities and governments consistently put such data to use to mitigate pollution.**

Interviewees point out that often the problem is not necessarily a lack of data, but other factors: evidence of harm is in fact often already there, but the **political will to challenge environmental problems** may not be, because interests between citizens, government representatives, and data brokers involved in processing collected data are not aligned. One of our interviewees also pointed out that these initiatives often task the collection of sensor data to **opaque, private companies**, and little is known about how the data will actually benefit the city’s inhabitants.

What is clearer is the extent to which all of these processes require invasive data-driven processes and infrastructures – which bring up a number of concerns about **surveillance and privacy infringements.**¹⁵²

Privacy and anti-surveillance activists and data protection researchers point to the fact that the types of public-private partnerships mentioned above are often implicated in the creation of new regimes of surveillance.¹⁵³ These partnerships can exist in grey areas that are as yet unregulated – so-called ‘living labs’ – which experiment with undemocratic nudge-like dynamics to promote desired behaviours.¹⁵⁴

1733–1748. <https://doi.org/10.1177/0042098019847410>

¹⁵² European Data Protection Supervisor. (2019). TechDispatch #2: Smart Meters in Smart Homes. https://edps.europa.eu/data-protection/our-work/publications/tech-dispatch/techdispatch-2-smart-meters-smart-homes_en; and: Fratini, A., & Pizza, G. (2018, March 22). EU Law Analysis: Data protection and smart meters: the GDPR and the ‘winter package’ of EU clean energy law. EU Law Analysis. <http://eulawanalysis.blogspot.com/2018/03/data-protection-and-smart-meters-gdpr.html>

¹⁵³ Saba, R. (2020, June). What Toronto can learn from the ‘smart city’ that never materialized. The Star. <https://www.thestar.com/business/2020/06/23/what-toronto-can-learn-from-the-smart-city-that-never-materialized.html> ; Block Sidewalk (2020). <https://www.blocksidewalk.ca/>

¹⁵⁴ Taylor, L. (2020). Exploitation as innovation: Research ethics and the gover-



The overlaps between environmental sensing, opaque collection and surveillance, and related concerns indicate that there are many questions around what meaningful, democratic, and ultimately, socially just participation looks like in the context of environmental governance. The bottom line, as one of our interviewees highlighted, is that “it doesn’t always mean going out and collecting digital data. More spaces are also needed for oral history and local knowledge to be shared.”¹⁵⁵

Opportunities

Opportunity

Supporting local, just data stewardship approaches to data

One of our interviewees is a technologist who has been working with community-run medical clinics to collect data on how pollution is affecting mothers and children, with the goal of strengthening advocacy against environmental racism. They argue that honouring needs and **desires to keep data locally stewarded should be regarded as a top-level priority** for any efforts to collect data about people and the environment, and that community-driven efforts should not be put into the position of needing to continuously negotiate data practices with “open data initiatives that just want everything standardised and centralised ASAP.”¹⁵⁶

This interviewee argues that it’s important to **fight the idea that local initiatives must always scale**, noting a common pressure faced by small initiatives to expand their geographic and issue scope, expand the types of data they collect, and enter into commercial relationships with private actors in order to become financially sustainable – a pressure which has historically often resulted in the misappropriation of sensitive data.¹⁵⁷ In their view, in cases where a data collection initiative is community-driven, data should be stored locally and used for a limited set of use-cases agreed upon beforehand, with data collection practices based on a model of enthusiastic assent. They argue that these types of initiatives should be free of the pressure to ‘scale up’ or standardise the data following top-down standards created in other contexts.

nance of experimentation in the urban living lab. Regional Studies https://pure.uvt.nl/ws/portalfiles/portal/47504036/Taylor_2020_Exploitation_as_innovation.pdf

¹⁵⁵ Interviewee #19

¹⁵⁶ Interviewee #12

¹⁵⁷ Porcaro, K. (2022, February). The Real Harm of Crisis Text Line’s Data Sharing. Wired. <https://www.wired.com/story/consumer-protections-data-services-care/>; McDonald, S. M. (2022, March). A Crisis of Loyalty. Centre for International Governance Innovation. <https://www.cigionline.org/articles/a-crisis-of-loyalty/>



Opportunity

Strengthening dialogue between DR and EJ-CJ approaches to data governance

Concern over **data stewardship and governance models** cuts across both DR and environmental and climate issues. Cross-cutting questions include thinking through what data should be collected, by whom; how it will be stored, used, or re-used; and how to ensure that data collection and sharing initiatives are not extractive of local communities.

To address these questions, practitioners focused on this intersection of digital/data and climate/environmental issues are exploring **alternative data governance models** which respect digital rights and Indigenous data sovereignty while using collected data to build a data commons. To prevent extractive dynamics, interviewees argue for the importance of establishing agreed-upon data sharing principles.

On that front, some see progress with the establishment of the FAIR Guiding Principles for scientific data management and stewardship.¹⁵⁸ Communities argue, however, that principles like these **fall short of addressing issues of epistemic injustice** (and related injustices) around data stewardship, as they focus exclusively on promoting the availability of data.¹⁵⁹

Indigenous data sovereignty initiatives have instead advanced the CARE Principles for Indigenous Data Governance, which advances the “right to create value from Indigenous data in ways that are grounded in Indigenous worldviews.”¹⁶⁰ Interviewees working at intersections of DR and EJ-CJ underline that support for Indigenous data sovereignty principles should be a crucial part of efforts to advance non-extractive data governance principles and frameworks,¹⁶¹ and argue

¹⁵⁸ Wilkinson, M. D., Dumontier, M., Aalbersberg, Ij. J., Appleton, G., Axton, M., Baak, A., Blomberg, N., Boiten, J.-W., da Silva Santos, L. B., Bourne, P. E., Bouwman, J., Brookes, A. J., Clark, T., Crosas, M., Dillo, I., Dumon, O., Edmunds, S., Evelo, C. T., Finkers, R., ... Mons, B. (2016). The FAIR Guiding Principles for scientific data management and stewardship. *Scientific Data*, 3(1), 160018. <https://doi.org/10.1038/sdata.2016.18>

¹⁵⁹ Rainie, S., Kukutai, T., Walter, M., Figueroa-Rodriguez, O., Walker, J., & Axelsson, P. (2019) Issues in Open Data – Indigenous Data Sovereignty. In T. Davies, S. Walker, M. Rubinstein, & F. Perini (Eds.), *The State of Open Data: Histories and Horizons*. Cape Town and Ottawa: African Minds and International Development Research Centre. <https://www.stateofopendata.od4d.net/chapters/issues/Indigenous-data.html>

¹⁶⁰ Global Indigenous Data Alliance. (2018). CARE Principles of Indigenous Data Governance. <https://www.gida-global.org/care>

¹⁶¹ See the following resources for a number of different data governance models being proposed and developed across commercial, academic, and government sectors and local communities:

Micheli, M., Ponti, M., Craglia, M., & Berti Suman, A. (2020). Emerging models of data governance in the age of datafication. *Big Data & Society*, 7(2), 2053951720948087. <https://doi.org/10.1177/2053951720948087>

Dosemagen, S., & Tyson, E. (2020, July). Data Governance Models and the Environmental Context: Part 2 Open Environmental Data Project. <https://www.openenviron->



that doing so provides an important opportunity for the DR field (and in particular, legal practitioners focused on the regulation of data and AI) to build increased solidarity with social justice and data justice-oriented approaches to technology and data.

Addressing data issues in the space will also require taking stock of the **technical infrastructures** currently used to collect and analyse data, an area DR groups could potentially provide guidance with. Much of the data collected by sensor technologies is **hosted with opaque commercial third parties**, which puts goals and principles around responsible data use in jeopardy.

One interviewee argued that moving to more **privacy-respecting** services is necessary, but requires more resources: “If citizen monitoring initiatives don’t want to use tech hosted by Silicon Valley, they will need to become more coordinated.”¹⁶² They express hope that such initiatives might explore the development of cooperative, non-commercial structures to pool resources and develop alternative tech infrastructures.

Opportunity

Collaboratively challenging the data practices of commercial ‘smart’ environments

While smart meters, smart grids, and smart cities have been touted for their ability to optimise energy use and give consumers and inhabitants a sense of their carbon footprint, interviewed energy experts and data protection experts encourage DR and EJ-CJ movements to unpack these promises and push for more research into and regulation around the use of data intensive processes in sustainability (and in particular, energy efficiency) projects.

For one, how the data of inhabitants is dealt with by energy companies and other data intermediaries is often opaque, with **privacy infringements** already on record. An energy specialist we spoke to also believes their promises around sustainability require scrutiny, **questioning the efficacy of sustainability approaches** focused on individual level **behaviour change and optimisation** (rather than transformation) of existing infrastructures and governance processes.

mentaldata.org/research-series/data-governance-models-and-the-environmental-context-part-2

van Geuns, J., & Brandusescu, A. (2020). What Does it Mean? Shifting Power Through Data Governance. Mozilla Foundation. <https://foundation.mozilla.org/en/data-futures-lab/data-for-empowerment/shifting-power-through-data-governance/>

Hardinges, J., Massey, J., & Waldo, K. (2021, November). Could ‘bottom-up data trusts’ help to tackle the climate crisis? Open Data Institute. <https://theodi.org/article/could-bottom-up-data-trusts-help-to-tackle-the-climate-crisis/>

¹⁶² Interviewee #7



Opportunity

Keeping an eye on 'AI for good' and data-driven environmental, climate, and sustainability initiatives

The drive to **standardise** environmental and climate data and incorporate it across 'smart' infrastructures manifests in a number of new initiatives exploring how **AI and machine learning technologies** can be applied to automate and analyse data at scale. International bodies such as the UN/UNESCO and a number of university initiatives and commercial actors are currently proposing to use AI to foster sustainable land-use, pollution control, water efficiency, and the prediction and forecasting of climate events.¹⁶³

In the humanitarian context, **predictive analytics programmes** are already being introduced to predict the displacement of people, drawing on data about food security and climate events.¹⁶⁴ This growing area of intervention is one in which communities working on responsible data, DR, data justice, AI ethics and EJ-CJ all have important critical perspectives to contribute. Researchers and practitioners working at DR and CJ-EJ intersections argue that, as part of a holistic concern with AI and justice, it's important to **make sure AI itself is sustainable**, and not just proposed as a tool for sustainability.¹⁶⁵ As put by researcher Theodora Dryer of the AI Now Institute:

¹⁶³ See Climate Change AI (<https://www.climatechange.ai/>); AI for the Planet Digital Conference (<https://aifortheplanet.org/>); International Telecommunication Union. (2018, January 31). 8 ways AI can help save the planet. AI for Good. <https://aiforgood.itu.int/8-ways-ai-can-help-save-the-planet/>; Rolnick, D., Donti, P. L., Kaack, L. H., Kochanski, K., Lacoste, A., Sankaran, K., Ross, A. S., Milojevic-Dupont, N., Jaques, N., Waldman-Brown, A., Luccioni, A., Maharaj, T., Sherwin, E. D., Mukkavilli, S. K., Kording, K. P., Gomes, C., Ng, A. Y., Hassabis, D., Platt, J. C., ... Bengio, Y. (2019). Tackling Climate Change with Machine Learning. ArXiv:1906.05433 [Cs, Stat]. <http://arxiv.org/abs/1906.05433>; UNESCO. (2021, February 25). AI for the Planet: Highlighting AI innovations to accelerate impact. UNESCO. <https://en.unesco.org/news/ai-planet-highlighting-ai-innovations-accelerate-impact>; and Maher, K. (2020). Environmental Intelligence: Applications of AI to Climate Change, Sustainability, and Environmental Health. Stanford HAI. <https://hai.stanford.edu/news/environmental-intelligence-applications-ai-climate-change-sustainability-and-environmental>

¹⁶⁴ UNHCR The UN Refugee Agency. (n.d.). Project Jetson. <https://jetson.unhcr.org/>

¹⁶⁵ To explore the issue of AI and sustainability further, see: van Wynsberghe, A. (2021). Sustainable AI: AI for sustainability and the sustainability of AI. *AI and Ethics*, 1(3), 213–218. <https://doi.org/10.1007/s43681-021-00043-6>; Climate Change and AI: Recommendations for Government Action. (2021). Global Partnership on AI. <https://gpai.ai/projects/responsible-ai/environment/climate-change-and-ai.pdf>; Dobbie, R. (2019, October 17). AI and Climate Change: How they're connected, and what we can do about it. AI Now Institute. <https://medium.com/@AINowInstitute/ai-and-climate-change-how-theyre-connected-and-what-we-can-do-about-it-6aa8d0f5b32c>; and Bender, E. M., Gebru, T., McMillan-Major, A., & Shmitchell, S. (2021). On the Dangers of Stochastic Parrots: Can Language Models Be Too Big? Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency, 610–623. <https://doi.org/10.1145/3442188.3445922>



“Artificial intelligence developed in the name of benefiting the environment is not the same thing as establishing environmentally and socially conscious AI systems. It is therefore imperative to centre justice and sovereignty frameworks, rather than economic growth frameworks, in assessments of AI and environmental policy.”¹⁶⁶

¹⁶⁶ Dryer, T. (2021, April 22). A Digital and Green Transition Series: Will Artificial Intelligence Foster or Hamper the Green New Deal. AI Now Institute. <https://medium.com/@AINowInstitute/a-digital-and-green-transition-series-will-artificial-intelligence-foster-or-hamper-the-green-new-bccbe8f779ec>



Key Intersection #5:

Migration justice

Summary: Migration justice



An intensifying climate crisis is already pushing vulnerable populations to militarised international borders, with surveillance-intensive border technologies being used to pre-empt migration and, in its extreme form, to render the journey deadly.¹⁶⁷

For both EJ and DR movements, preparing for increased migration and, more importantly, for the increasing militarisation and digitisation of borders and surveillance of people on the move, can be thought of as being well within the scope of measures and work related to climate adaptation.

Both EJ and DR have a role to play in migration justice

The **connection between climate change and displacement** has been increasingly established and documented throughout the past decade as a **root cause of migration movements**, and famine and conflict have proven climate change-based links (e.g. droughts in rural areas leading to displacement – both internally and across borders – and added social pressure).^{168 169}

It is expected that, as the effects of the climate crisis worsen, **an increasing number of people will be on the move**, seeking asylum and shelter from climate-related disasters, from climate-worsened or climate-generated conflicts and from increasingly uninhabitable lands. The World Bank currently estimates that between 30

¹⁶⁷ Habib, A. (2021, June 18). The ongoing digitisation of Europe's borders. Digital Freedom Fund. Retrieved April 20, 2022, from <https://digitalfreedomfund.org/the-ongoing-digitisation-of-europes-borders/>

¹⁶⁸ ICRC. (2020). (rep.). When Rain Turns To Dust: Understanding And Responding To The Combined Impact Of Armed Conflicts And The Climate And Environment Crisis On People's Lives. Retrieved February 2, 2022 from https://www.icrc.org/sites/default/files/topic/file_plus_list/rain_turns_to_dust_climate_change_conflict.pdf

¹⁶⁹ Lustgarten, A. (2020, July 23). The Great Climate Migration Has Begun. The New York Times Magazine. Retrieved April 20, 2022, from <https://www.nytimes.com/interactive/2020/07/23/magazine/climate-migration.html>



and 200 million people will leave their homes by 2050 due to climate-related issues.¹⁷⁰

At the same time, we also see **an increasing reliance on technologies** by states, in their efforts to curtail migration and externalise their borders,¹⁷¹ and by international governance bodies, such as humanitarian agencies, in their management of people they intend to serve.¹⁷²

Government border agencies such as Frontex in Europe and Customs and Border Protection (CBP) and Immigration and Customs Enforcement (ICE) in the US not only have **increasing budgets** to rely on, but use ever greater proportions of their resources to **invest in technologies**.

Recent research frames this move by global north countries, many of them responsible for the greater share of CO2 emissions globally, as these countries' **main response to the current climate crisis**, building a de facto '**Climate Wall**' – in other words, prioritising the militarisation of borders and surveillance of people on the move over investment in climate action.¹⁷³

The increasing surveillance of people on the move and the militarisation and digitisation of borders can also be thought of as one of the main areas of investment by states in relation to what they understand as climate adaptation. As one activist told us:

“There is a connection between digital technologies and adaptation to climate change. I’m thinking, for example, migration and frontiers and surveillance on those frontiers ... That is a very very important issue that is not often framed as an adaptation issue.”¹⁷⁴

As a consequence of all of the above, **refugees and people on the move in general are increasingly subjected to digital surveillance**, biometrics and automated decision-making schemes,¹⁷⁵ all of which collect and/or make use of sensitive data, – with technologies such as monitoring drones, cell phone tracking and social

170 Cho, R. (2021, May 12). Climate migration: An impending global challenge. State of the Planet. Retrieved April 20, 2022, from <https://news.climate.columbia.edu/2021/05/13/climate-migration-an-impending-global-challenge/>

171 Molnar, P. (2020). (rep.). Technological Testing Grounds: Migration Management Experiments and Reflections from the Ground Up. European Digital Rights (EDRI). Retrieved February 2, 2022 from <https://edri.org/our-work/technological-testing-grounds-border-tech-is-experimenting-with-peoples-lives/>

172 The Engine Room. (2020). Understanding the lived effects of digital ID. Retrieved February 2, 2022, from <https://digitalid.theengineroom.org>

173 Miller, T., Buxton, N., & Akkerman, M. (2021). (rep.). Global Climate Wall. Transnational Institute (TNI). Retrieved April 20, 2022, from <https://www.tni.org/en/publication/global-climate-wall>

174 Interviewee #1

175 (Molnar, 2020)



media scraping used to “track, identify, and control those crossing borders.”¹⁷⁶ Even AI-driven so-called ‘lie detectors’ have been found to be in use in Europe.¹⁷⁷ Intensive forms of surveillance are the norm in this context, technologies deployed are subjected to little or no oversight in terms of their human rights impacts, and redress mechanisms for violations remain virtually unavailable.¹⁷⁸

One interviewee spoke about how surveillance and tracking have also become a part of migration within their region:

“On the ground in China and Mongolia, because of climate change, there’s a lot of [in-country] migration due to folks having their traditional livelihoods upended and a lot of surveillance and tracking these boundaries, tracking people ... that really intersects with digital rights.”¹⁷⁹

CJ-EJ and DR practitioners we spoke to argue that both digital rights and environmental/climate justice movements have a responsibility to address injustices around migration – whether across borders or in-country (specifically, rural-to-urban movement).

To advance a justice framework here is to approach the issue of the right to migration and movement as a form of reparation,¹⁸⁰ with responses grounded in supporting **movement building and solidarity across borders**, and as well as demanding **accountability** from states in regard to human rights violations.

In this sense, both EJ and DR movements will continue to have an important role in critically inquiring and opposing migration-related injustice, as well as advancing justice-based notions and action on climate adaptation in relation to migration.

¹⁷⁶ Ibid.

¹⁷⁷ (Habib, 2021)

¹⁷⁸ (Molnar, 2020)

¹⁷⁹ Interviewee #12

¹⁸⁰ Gonzales, C. G. (2020). Migration as Reparation: Climate Change and the Disruption of Borders. *Loyola Law Review*, 66, 401-444. <https://doi.org/https://ssrn.com/abstract=3727725>



Opportunities

Opportunity

Support organisations, campaigns and coalitions working on tech, borders and migration and climate change

As the links between tech, borders, displacement and climate change are made clearer, coalitions and organisations working on the matter are doing important **work that needs to be supported and uplifted:**

- + Campaigns such as No Tech for ICE¹⁸¹, led by grassroots organisation Mijente, and the student-led No Tech for Tyrants¹⁸² do the work of **shining a spot-light** on the deeply problematic practice of providing repressive surveillance tools to border agencies known for their abuses, targeting companies and tech workers in order to stop contracts.
- + Other campaigns like Abolish Frontex¹⁸³ and Abolish ICE bring together an array of social justice groups, **advocating for the end of the ‘border industrial complex’¹⁸⁴** through the divestment of agencies that embody repression and surveillance practices.
- + Since 2021, Amnesty Tech has been **stewarding a community on tech and migration** formed by activists, organisations and researchers working at this intersection, supporting coalition building and joint advocacy.
- + Organisations working to highlight the connection between displacement and climate change, such as Climate Refugees¹⁸⁵, are also doing the essential work of documenting not only the impact of climate change on migration and displacement, but also of **highlighting the political nature of choices** made by states when they prioritise deterrence.

Additionally, supporting social justice and grassroots groups that the digital rights movement hasn't necessarily built bridges with (like organisations working on direct support for people on the move) would be beneficial for fostering work at the EJ/DR intersection and for supporting the establishment of networks of solidarity.

181 Mijente's campaign #NoTechForICE: <https://notechforice.com/>

182 No Tech for Tyrants: <https://notechfortyrants.org/>

183 Abolish Frontex: <https://abolishfrontex.org/>

184 (Habib, 2021)

185 Climate Refugees: <https://www.climate-refugees.org/>



Opportunity

Support petitions and strategic litigation challenging non-transparent data practices and tech use in border management and migration repression

Petitions directed at policy-makers as well as strategic litigation challenging data management practices, tech use for border management and related repression tactics show potential as **useful tools for advancing migration justice**. These measures have thus far seen a degree of success, especially in Europe: civil society organisations have won lawsuits in the UK, Germany and France challenging issues such as the practice of searching asylum seekers' personal phones and the refusal to allow asylum seekers access to their personal records being used in their asylum process.¹⁸⁶

Moreover, the aforementioned AI-based 'lie detector' is the target of an ongoing lawsuit in Germany, as well as the target of a petition by the Greek digital rights organisation Homo Digitalis to its national parliament.¹⁸⁷ Support to those mapping potential avenues for legal action and to organisations already doing this work should be considered as a potential strategy to advance.

Opportunity

Support research and documentation at the intersections of migration, climate change and tech

As tactics deployed in one state tend to be exported and replicated elsewhere, continued research, documentation and monitoring of methods, types of tech and incidences of violation is important to the **building of knowledge** and to support advocacy – actors pursuing this work can leverage existing access to information legislation alongside other research methods.

The Border Violence Monitoring Network¹⁸⁸, for example, documents pushbacks, police violence and other violations at the EU's external borders, including where technology is used to aid border violence. This work also serves the purpose of continuously questioning the notion of 'tech neutrality' and discursively establishing the connections between tech, border externalisation, migration deterrence and climate justice – fundamental notions to support advocacy, organising and movement building.

¹⁸⁶ Ibid.

¹⁸⁷ Ibid.

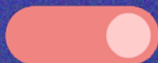
¹⁸⁸ The Border Violence Monitoring Network: <https://www.borderviolence.eu/>



Recommendations for digital rights funders

There are many opportunities for DR funders to pursue in supporting the advancement of work at the intersections of DR and EJ-CJ, and we explore some below. Overall, what seems necessary and possible to foster is a **productive interface between movements/communities and grantmakers**, which acknowledges the hard work being done already by communities and which supports them to carry out their work in a structural and sustainable (in many senses of the word) way.

For additional ideas and avenues of explorations, we suggest readers revisit the Opportunities listed within each Key Intersection, which capture specific points of entry for both DR funders and DR practitioners.





01

Support contextual learning and convening opportunities

01.1

Organise and fund convenings for EJ-CJ and DR communities to meet, articulate potential agendas, and map their overlaps

The cross-cutting themes presented in this report are clear areas where we found a specific need for more conversation across spaces, and which could form the foundation of the agendas for focused convenings.

In general, interviewees across practices and topic areas flagged the importance of opportunities for DR and EJ-CJ practitioners to **learn more about each field's respective issues of focus and current priorities** at events such as conferences, workshops, and matchmaking events. These opportunities would enable both DR and EJ-CJ practitioners to build shared lexicons, align on cross-cutting goals, and learn about the ways in which their work already supports each other.

In practice:

- One possibility is to **specifically invite EJ-CJ groups** (especially those taking an intersectional, justice-centred approach to challenging extractive companies) **into DR convenings**.¹⁸⁹ Conversely, funders could explore conference travel for DR groups and funders to join EJ-CJ spaces and deepen knowledge about current priorities. Many of these spaces are organised at a regional level, around relevant topic clusters. Plugging into them might include research to identify networks and coalitions in regions (or on topics) relevant to the funder.

¹⁸⁹ Examples of convenings include MozFest and the Internet Governance Forum (which already have environmental-climate and sustainability related tracks), RightsCon, the Civil Rights, Privacy and Technology Table, the Color of Surveillance Conference, the Internet Governance Forum, Bread and Net, and the Internet Freedom Festival.



- In both spaces, funders would do well to **provide extra support** to the attendees who are entering unfamiliar spaces – by providing additional resources for topical learning, making connections, and becoming familiar with a newer space – and to those who need support accessing the spaces, whether it be through travel funds or covering the cost of data, wifi and internet-enabled device access.

01.2

Create opportunities for existing and future grantees to learn from one another and explore potential collaborations

Interviewees who have received (or are currently receiving) funding from grantmakers expressed a keen interest in more opportunities to **learn about the work of fellow grantees** working on DR, EJ-CJ and their intersections. These opportunities could arise within grantmaker programmes (i.e. connecting grantees receiving support from the same programme within a grantmaking entity) or they could arise across grantmaker programmes (i.e. connecting grantees across different programmes within the same grantmaking entity). While both kinds of connections are valuable, we particularly found that the latter kind of opportunities – making connections across programmatic areas – were rare. Building these networks is a valuable resource, beyond the financial support itself, for many organisations.

In practice:

- For DR funders who work within foundations that also have programmes focused on EJ-CJ work, this could look like **matchmaking events** for grantees to share their work with one another and explore potential avenues of collaboration together. Other event formats, such as lunch-and-learns or roundtables, could also be appropriate and could draw topical inspiration from the cross-cutting themes identified in this report.
- Additionally, the tools used by DR advocates and EJ-CJ advocates are often similar, including organising for more impactful digital rights or climate legislations, or using strategic litigation to challenge harmful practices. DR funders have the opportunity to **create spaces** where practitioners from across the areas can **learn from one another, share effective tactics**, and potentially tackle the same issue from multiple angles.



02

Foster the development of cross-cutting projects and programmes

02.1

Support collaborative projects for practitioners across EJ-CJ and DR to work out issue intersections through practice

Speaking about the importance, as well as the challenge, of establishing shared lexicons across different movements and communities, those we spoke to argued that opportunities for hands-on work through collaboration on targeted campaigns, research, and implementation projects could help build these shared lexicons. The ‘Opportunities’ we explore across the five Key Intersections surveyed in our report offer some of the most compelling potential pathways to explore for such collaborations and projects.

In practice: Creating opportunities for action and building shared understandings in real-time could include:

- ➔ **Special calls for applications** around a particular cross-cutting theme, or hands-on workshops and convenings. In practice, these joint projects or workshops should be designed to meet real needs with a systematic, intersectional lens.
- ➔ **Collaborative campaigns on issues** such as resource extraction by Big Tech companies, online climate disinformation, and legislation around ‘conflict minerals’ to broaden what is included in those conversations.
- ➔ **Projects, grants or convenings to explore concrete tactics** around topics like (among other potential ideas) technology impact assessment methodologies (in an effort to develop more holistic approaches); documenting and communicating the harms of climate change and/or harmful data practices; and using just data stewardship and governance frameworks for environmental and climate data platforms.



➤ **Leveraging legal expertise proactively** at the various intersections of climate and technology. This can build upon established histories of strategic litigation and climate – and technology – or data-related legislation across the globe. Though this was not a core focus of our report, it arose in interviews and has been highlighted as an emergent opportunity for learning across the two spaces by EJ-CJ and DR practitioners.¹⁹⁰

02.2

Support the growth of cross-cutting organisational agendas and programmes

At the moment, many EJ groups' engagement with DR topics remain 'boundary concerns' rather than strategic priorities, while many DR groups don't see environmental and climate issues as within their remit. For organisations with an active interest in expanding strategic priorities, resource constraints can make it a challenge to forge **cross-cutting issue agendas**.

As an example, policy experts we spoke to are looking at **how to integrate** environmental considerations into digitisation policies, and how to integrate digitisation into environmental/climate policies. However, crafting and advocating for policy at the intersection of DR and EJ-CJ is challenging because of programmatic silos within advocacy groups and policy-making spaces. Policy experts told us they face pressure to have a clear issue-specific agenda and tell us they find it challenging to find funding for intersectional programmes that cut across issues relating to digitisation, sustainability, and climate/environmental justice.

In practice:

➤ One starting point in fostering more cross-cutting agendas would be to **support existing DR** organisations with funds to do an **assessment of their own strategies and intersections** with EJ-CJ issues. These assessments could be enriched when done collectively, perhaps through programmes that bring together DR and EJ-CJ movements to envision futures together. Another would be to provide **fellowship opportunities** for placement of practitioners already working on cross-cutting issues to support DR organisations to bring a climate and environmental lens to existing programmatic agendas.

¹⁹⁰ Simons, D. (2020). When Climate Justice and Digital Rights Collide. Digital Freedom Fund. <https://digitalfreedomfund.org/when-climate-justice-and-digital-rights-collide/>



➤ However, the pressure to have a clear issue-specific agenda, highlighted above, also speaks to a need to build out longer-term capacity for building connections within organisations themselves. There, funders could provide support for the **hiring of dedicated staff to work on collaboration** on a long-term basis within organisations. These could be researchers and experts dedicated to building external connections on cross-cutting issues.



03

Build the capacity and well-being of both EJ-CJ and DR actors

03.1

Support tech and community maintenance processes

Both DR and EJ-CJ actors noted trouble getting **funds for tech infrastructure and maintenance**, and interviewees expressed a need for grant support that would flex to cover these costs. This surfaced in interviews as an issue in at least two areas: first, **digital security and safety**, as constant updates, upgrades and audits are required to keep IT systems and organisations secure, and EJ-CJ actors are particularly in need of long-term support on digital security; and second, **maintenance**, particularly where it concerns the ability for communities to steward their own justice-centred tech and data platforms. The upkeep of environmental data sharing platforms, for example, requires continued maintenance to keep the platforms useful and safe for communities engaging with them. There's also a need to develop alternative infrastructures that don't put data in the hands of opaque third parties, as currently often happens due to a dependency on commercial platforms.

In practice:

- ➔ Funders may explore allocating portions of grants (including project-based grants) to be used for the **hiring and maintenance of IT and security staff or consultants**, ensuring that it also covers the cost of recruitment and hiring, and considering non-financial ways to support the recruitment efforts (e.g. by sharing the call for applicants, or by offering introductions). Rather than one-off digital security training or ad-hoc support, those we spoke to hope for in-house IT and security expertise and opportunities for long-term accompaniment to ensure that digital security practices become a part of organisational cultures.



- The experiences of our interviewees also point to the need for **alternate tech infrastructures**, an area that many DR and DR-adjacent groups and funders are already working on. Though it was not a focus of this research, there are likely opportunities for bringing EJ-CJ practitioners further into those conversations.

03.2

Centre safety and protection in funding approaches, as parts of creating sustainable movements.

Prioritising safety and protection, in both digital and physical dimensions, is fundamental to the work of both EJ-CJ and DR activists. As covered above, part of this requires proactive and sustained investments in digital security. Another aspect includes **legal protections**; EJ-CJ actors we spoke to highlight how often environmental defenders and environmental organisations must face off against corporations in court. They point out that grants do not often cover legal support within their structures, and recommend that the costs for this defence be considered as an integral part of supporting EJ-CJ communities.

In practice:

- As DR funders seek to support more avenues of collaboration between DR and EJ-CJ, they should be mindful that the need for **legal support** may carry over into areas where cross-cutting DR and EJ-CJ work challenges powerful players.
- Rather than provide reactive funding, grantmakers should **proactively and collaboratively explore risks** inherent to much of this work and create (and fund) plans for mitigation, which could include legal defence, sustained digital security interventions and more.



04

Foster funding strategies that meet movements and communities where they are

04.1

Make room for informal networks, small groups, and grassroots organisations in funding strategies.

As DR funders explore how to support and centre EJ-CJ work in their strategies, EJ-CJ practitioners we interviewed ask funders to create more pathways of support for **local grassroots groups and movements** that don't yet have the same visibility of older environmental organisations. They highlight that much of the energy around climate work is happening on a local grassroots level.

An example is the fossil fuel divestment movement, which is globally distributed and is often run by people working on a volunteer basis. Their priorities, structures, and ability to get support is very different from that of traditional nonprofits and larger institutions, and they often have trouble finding resources to write grants and reach funders in the first place. A divestment specialist we spoke to underlined that “money isn't flowing to [global south countries] to be [used for] mitigating and adapting to the climate crisis, and where it is flowing, it's not flowing to the grassroots level.”¹⁹¹

In practice:

➔ **Consider microgrants and matchmaker grants:** One potential way to remove barriers to funding for decentralised networks and grassroots movements is by making microgrants available to smaller ‘unproven’ actors; these microgrants can ramp up to larger grants over time. Light-touch ‘matchmaker grants’ could be made available for DR and EJ-CJ actors to explore collaborations with one another.

Increase accessibility: Findings from our interviews aligned with those

191 Interviewee #6



➤ from The Engine Room’s previous research on equity in funding for the tech and human rights space.¹⁹² Namely, there is a continued need for grantmakers to be mindful about communicating funding opportunities in multiple languages, offering ample guidance and opportunities for communication about grants, having flexible formats that accommodate differing literacy and languages, and compensating smaller/local/grassroots organisations for the time they spend in their application.¹⁹³

➤ **Grantmaking through partners:** Interviewees emphasised the need for support accessing funds, noting that many EJ-CJ groups in particular are not registered nonprofits or may not meet typical funding requirements, precisely because they are network-based, grassroots-level and/or based in the global south. This too echoes findings in The Engine Room’s equity in funding’ research, which found that support for these kinds of groups was needed when it came to accessing funds, potentially through working with partners and fiscal sponsors – but only provided these partnerships are rooted in non-extractive relations.¹⁹⁴

04.2

Fund groups led by Indigenous Peoples to participate in cross-cutting DR and EJ-CJ work.

As of 2021, only 1% of climate funding goes to Indigenous-led groups.¹⁹⁵ At the same time, these groups are at the **forefront of essential climate and environmental work** around the world, pushing back against harmful actions by companies and governments and moving technological governance discussions towards more just frameworks of data stewardship and commons-building. Interviewees we spoke to underlined that supporting Indigenous-led groups should be understood as a form of reparations. For DR funders working at this intersection, it’s critical to **include Indigenous-led groups from the outset.**

¹⁹² The Engine Room. (2020). Tipping the scales: What it takes to fund an equitable tech and human rights ecosystem. <https://www.theengineerroom.org/wp-content/uploads/2020/09/Tipping-the-scales-The-Engine-Room.pdf>

¹⁹³ Ibid.

¹⁹⁴ Ibid.

¹⁹⁵ Gjeffen, T. (2021). Indigenous people get less than 1% of climate funding? It’s actually worse.. Mongabay News and Inspiration From Nature’s Frontline. <https://news.mongabay.com/2021/11/Indigenous-people-get-less-than-1-of-climate-funding-its-actually-worse-commentary/>



In practice:

- **Supporting explicitly anti-colonial and/or Indigenous-led research and advocacy** is one entry point to this recommendation.
- In particular, DR funders could collaborate on **capacity building** around technical, digital rights and digital security concerns within these organisations, especially given the predominance of Indigenous leaders among land defenders targeted by companies and governments. There are many such groups globally, including the Global Indigenous Data Alliance (GIDA),¹⁹⁶ Natives in Tech,¹⁹⁷ the Civic Laboratory for Environmental Action Research (CLEAR)¹⁹⁸ and the Center for Interdisciplinary Environmental Justice.¹⁹⁹

04.3

Explore strategies for divestment and reinvestment.

At a moment when many funders are evaluating their investment strategies, EJ-CJ activists ask funders to take stock of whether they have shares in polluting companies or tech giants. One CJ activist shared that “there is a tension in funding calls where funders are implicated.”²⁰⁰ Another asks funders to “align yourselves – **make sure you’re walking the talk.**” To this end, many large grantmaking organisations have already begun (or nearly completed) divestment from fossil fuels.²⁰¹ Wallace Global Fund, for example, began their process as early as 2009 and were 99% divested by 2012.²⁰² They also created ‘Divest-Invest Philanthropy’, which encourages philanthropic institutions to divest from fossil fuels and then reinvest that money in work specifically on climate change.²⁰³

196 GIDA - Global Indigenous Data Alliance. (n.d.) <https://www.gida-global.org/>

197 Natives in Tech. (n.d.) <https://nativesintech.org/>

198 CLEAR - Civic Laboratory. (n.d.) <https://civiclaboratory.nl/who-we-are/>

199 The Center for Interdisciplinary Environmental Justice. (n.d.) <http://www.the-ciej.org/>

200 Interviewee #7

201 Explore the Global Fossil Fuel Divestments Database for more global commitments: <https://divestmentdatabase.org/>

202 Lang, K., Electris, C., & Humphreys, J. (n.d.). Mobilizing More for Mission: Re-designing Wallace Global Fund’s Endowment. Croatan Institute and Wallace Global Fund. Retrieved 11 May 2022, from <http://wgf.org/wp-content/uploads/mobilizing-more-for-mission.pdf>

203 Ibid.



In practice:

➤ At a minimum, funders should **disclose any potential conflicts of interest** in their investment strategies (e.g. holdings in oil, coal and gas, but also in Big Tech companies). If applicable, they can explore **divestment from fossil fuel companies and Big Tech companies** implicated in extractive practices in cross-cutting EJ-CJ and DR issues. One divestment specialist points out that as funds are divested, it's essential to consider where to reinvest: "Foundations can't passively allow an asset manager to decide where to re-invest." They added that it's essential to "make sure funders are investing in companies that are taking care of people, planet and profit at the same time."²⁰⁴

Funders may also consider **learnings from the climate movement's 'de-growth' approach** – examining the ways the technology they fund does (or doesn't) require more consumption of resources. This could involve taking care to **avoid techno-solutionist trends** that ignore justice in their framing and/or operate in isolation from initiatives that centre EJ (or even directly take away from their efforts). It could also involve looking towards **open hardware and software**, or explicitly environmentally conscious tech approaches. Ultimately, this approach could help foster a more just tech ecosystem in line with climate and environmental goals.

➤ Finally, funders can turn inward, to examine how **their own technology choices** may have unintended environmental impacts, or may support companies whose climate promises have proven hollow. Ensuring that their own internal **tech ecosystems align with their grantmaking values** at the intersection of digital rights and EJ-CJ can include weaving environmental considerations into procurement processes, calculating the climate impacts of their own technology choices, auditing current technical platform use to see how current choices align with grantmaking values, and more.

204 Interviewee #6



04.4

Foster participatory grantmaking.

To shift the power and decision-making towards communities and actors doing the work, participatory grantmaking can play a fundamental role in **making sure funding is flowing to the most relevant and impactful work** at the DR/EJ intersection.

In practice, some strategies in this vein would be:

- Co-creating agendas directly with members of the communities and movements you are working within.
- Designing funding strategies that are directly informed by what movements identify as priorities and, as time goes on, shifting strategies according to communities' feedback
- Trusting movements with their own resource allocation, by making grants more flexible and adaptable.
- Having communities' members participate in reviewing applications and/or exploring ways to enable them to contribute their assessments more broadly.
- Creating dedicated spaces for open communication, feedback and accountability from all sides, not just accountability from grantee to funder.²⁰⁵

²⁰⁵ The Engine Room. (2020). Tipping the scales: What it takes to fund an equitable tech and human rights ecosystem. <https://www.theengineroom.org/wp-content/uploads/2020/09/Tipping-the-scales-The-Engine-Room.pdf>

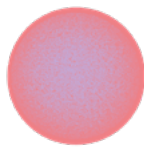


Appendix: Methods

Desk Research

We surveyed 120 different initiatives touching on intersections of DR, allied technology work, and EJ-CJ. These included small grassroots initiatives, coalitions, loose networks, nonprofit organisations, and inter-governmental initiatives.

Practitioner Community calls



We **held two community calls** which brought together practitioners working on digital rights, technology, environmental and climate issues (a community call is a virtual gathering of a pre-existing community or budding community of individuals). During the calls, participants were able to actively participate in discussions and learn about their peers' practices, questions and work. Community calls help us develop a holistic understanding of where communities stand on different themes and how participants' experiences and insights relate to each other.

The community calls were held in October and November, 2021. The goal was to collaboratively surface shared areas of concern at intersections of DR and EJ-CJ issues. The participants included DR nonprofit representatives, tech and sustainability practitioners, grantmakers, EJ-CJ nonprofit representatives, and members of activist networks. Participants had mixed familiarity with DR and EJ-CJ intersections: some were already actively exploring them in their work, while others came curious to learn about potential intersections and their relevance to their particular area of work.

These calls surfaced cross-cutting issues and shared concerns which informed the focus of our research.



Funder Community calls

We also held two funder-focused community calls which brought together a group of digital rights, technology, and EJ-CJ funders. These calls were held in December 2021 and February 2022. They were a chance to share emerging research findings and surface questions from the funder community about DR and EJ-CJ intersections.

Interviews

Between January and March, 2022, we conducted semi-structured interviews with 20 people from a diverse set of movements and communities, who work in different countries and regions of the world. Some interviewees work locally, while others work regionally or internationally.

We spoke to people broadly falling into three groups:

- practitioners from digital rights and technology-oriented organisations who have expressed early interest in working more on EJ-CJ issues (for example: mentioning related issues in their strategies, attending relevant events, speaking on related topics)
- practitioners working on CJ-EJ issues who have expressed interest in DR and technology issues, or whose work is particularly relevant to issues related to DR, and
- key practitioners whose work already sits at the intersections of DR and EJ-CJ, including on topics related to technology and sustainability, digital security, environmental data, disinformation, censorship, and more.

Our interviews aimed to build an understanding of how people first became interested and concerned with EJ-CJ and DR issues, how they forged a path working at intersections of EJ-CJ and DR, what they deemed to be the most important gaps and priorities within their respective fields; and how they believe the funder community can best support their work.

The research team collaboratively coded interview transcriptions, and conducted a thematic analysis which led to the articulation of the cross-cutting themes and Key Intersections explored in the report.

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