Structural Problems // Towards Climate Justice

- **Inequality of *"e-impact"***
  - digital colonialism ("digital divide")
  - economic exploitation & externalising costs / harms
  - extractivism, pollution, e-waste
- **Fallacy on Endless Growth**
  - Consumerism / Luxury / "Innovation"
  - Short-term thinking & convenience
- **Addiction to Fossil Fuels**
  - and wasteful over-consumption of water, land, minerals, energy

➡ **Solidarity, Respect, Reparations**

- ➡ Stopping the harms

➡ **Sufficiency** & Modesty/Frugalism

- ➡ Limiting Extractivism
- ➡ Decreasing Growth
- ➡ Focus on Commons/Common Good/FLOSS

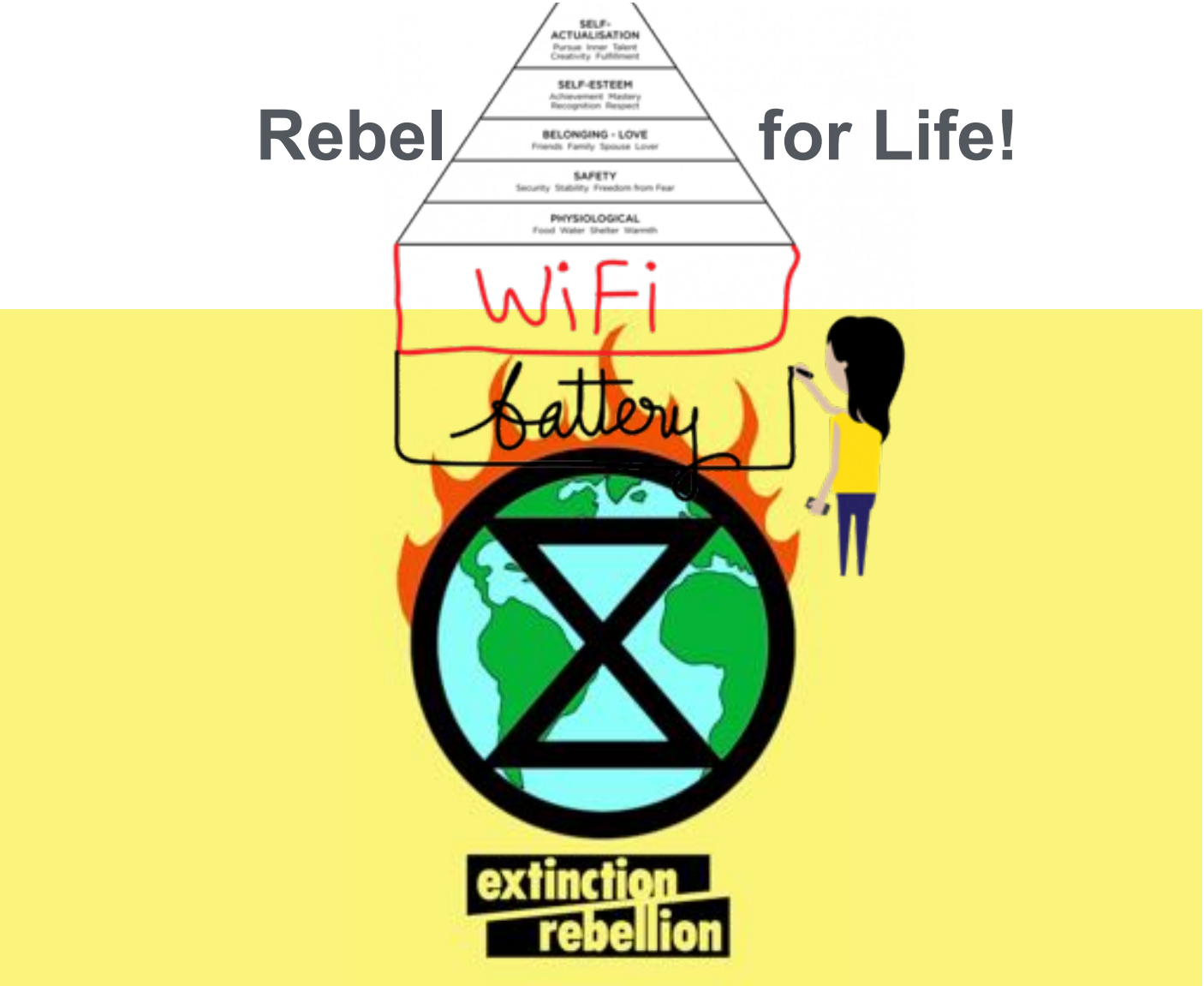
➡ **Abandon Fossil Fuels**

- ➡ use small amounts of renewable energy;
- ➡ repairability, circularity, efficiency, durability

Suggestions for this workshop

- **Session 2: What do we (not) know**
  - consider water & materials (over)usage, rather than “just” energy & CO2 ; “DATA IS THE NEW OIL”
  - put efforts in actual actions, not more measurements: “perfect is the enemy of the good (enough)”
- **Session 3: Improvements**
  - consider conservation/decrease/reduction/limitation as a criteria for success (10% less per year!)
  - consider “disaster scenarios”, emergency situations & extreme climate as baseline requirements
  - beware of techno-optimism, efficiency paradox (https://en.wikipedia.org/wiki/Jevons_paradox) & power-differentials
- **Session 4: Next steps**
  - working in solidarity with “frontline communities” (RFC8890) & activists (e.g. https://irtf.org/gaia)
  - working together with existing organisations in Climate Justice fields (APC,SIGCAS,D4S,ISOC,CCC…)
  - small step: adding “Sustainability & Climate Justice Considerations” to each IETF draft!

Rebel for Life!



Two examples of Political Demands

- **“Digitisation must be placed more at the service of society and of social and ecological change.**
- **Digital technologies should contribute to the improvement of living conditions and the environment through equal social participation and within planetary boundaries,**
  - instead of exacerbating existing crises even further due to exploding energy requirements, resource consumption and lack of participation, especially in the Global South.”
- ***Bits & Bäume, 2022***

“Digital Reset”, TU Berlin, 2022

Three requirements must be met for digitalisation to work for sustainability:

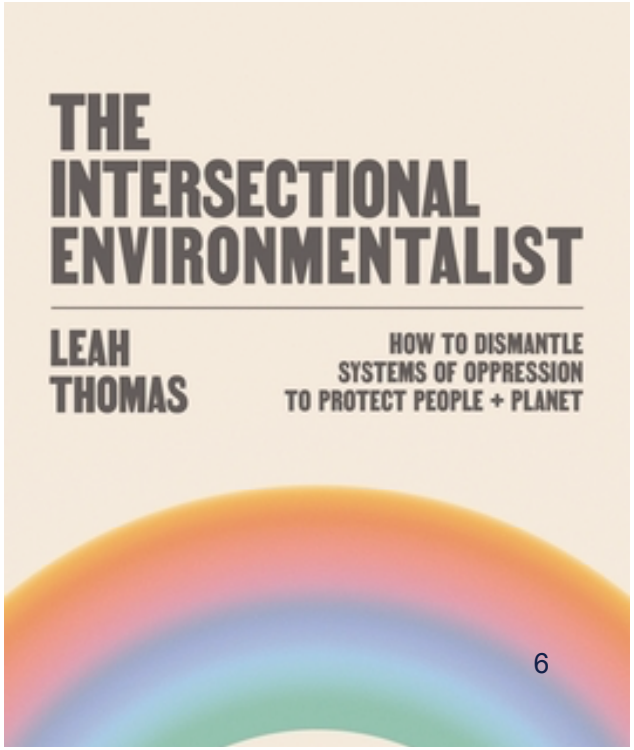
- The social and environmental impacts of producing and operating **digital devices, infrastructures and data centres** must be reduced. To make a difference in the short term, this report presents a combined strategy for digital sufficiency, repairability, circularity, and efficiency.
- The growth-oriented **business models of Big Tech companies** must be controlled and eventually replaced by business models that are oriented towards the common good. This report points out three policy pathways that can initiate this transition.
- The governance of **data and artificial intelligence** needs to actively pursue an information-based circular economy. This report shows which new institutions are required, and which policies can put data and AI in the service of sustainability.

Engineering: Power and Responsibility

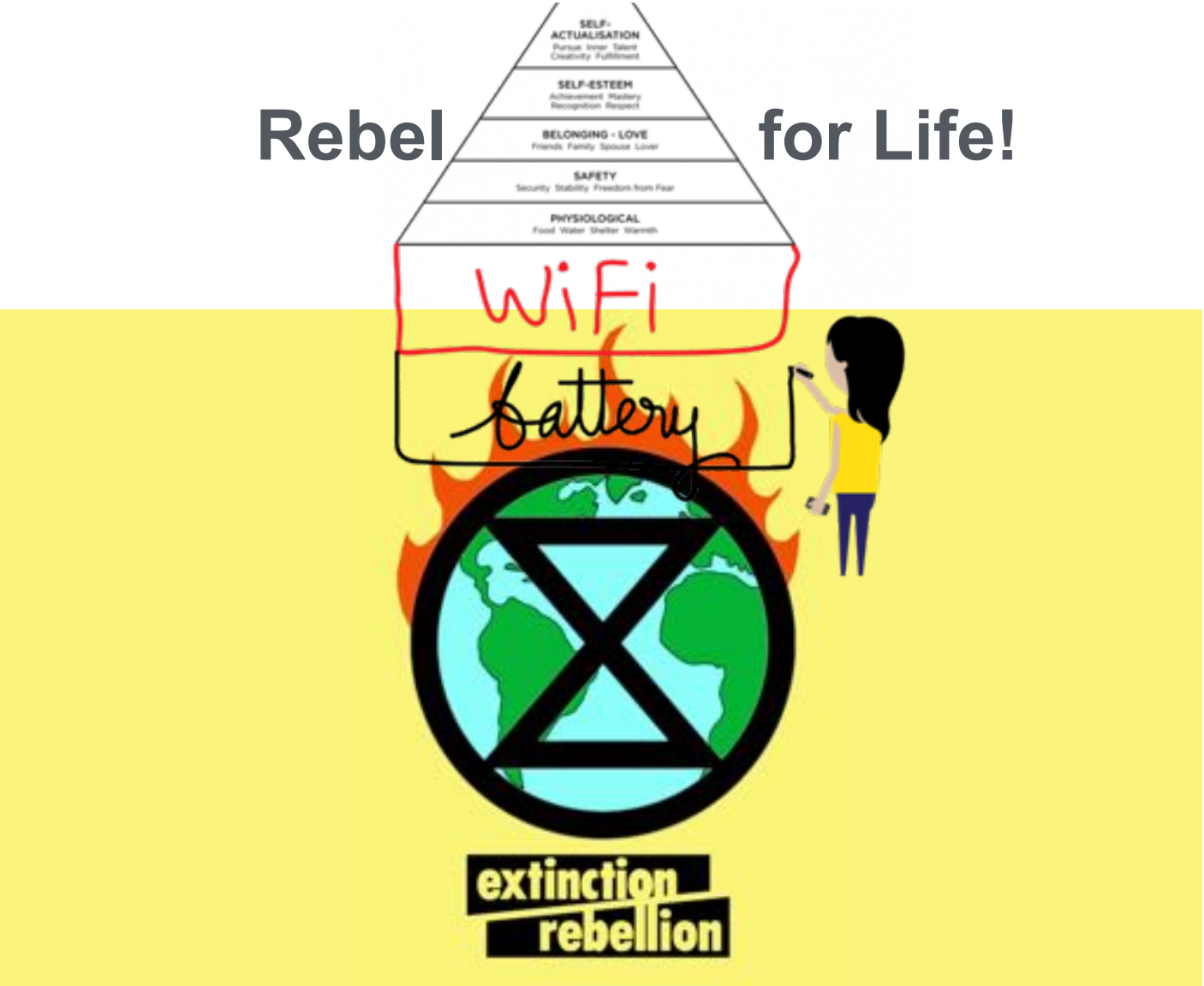
At a time when science plays such a powerful role in the life of society, when the destiny of the whole of mankind may hinge on the results of scientific research, it is incumbent on all scientists to be fully conscious of that role, and conduct themselves accordingly. I appeal to my fellow scientists to remember their responsibility to humanity.[210]

Hopeful Directions Towards Planet-Friendly Internet

- Decolonising The Internet; Degrowth, Divestment, Decentralization …
- Feminist Internet / Data Feminism
- Community-owned & community-run networks (e.g. GAIA)
- “Right To Repair” Movement
- Permacomputing
- Low-Tech, Slow-Tech, Retro-Tech
- Intersectional Enviromentalism
- Extinction Rebellion, Scientists Rebellion,
  - Youth Rebellion, Mothers Rebellion…



Rebel for Life!



Political Point of View

Table 2.1: From data ethics to data justice	
Concepts That Secure Power Because they locate the source of the problem in individuals or technical systems	**Concepts That Challenge Power** Because they acknowledge structural power differentials and work toward dismantling them
Ethics	Justice
Bias	Oppression
Fairness	Equity
Accountability	Co-liberation
Transparency	Reflexivity
Understanding algorithms	Understanding history, culture, and context

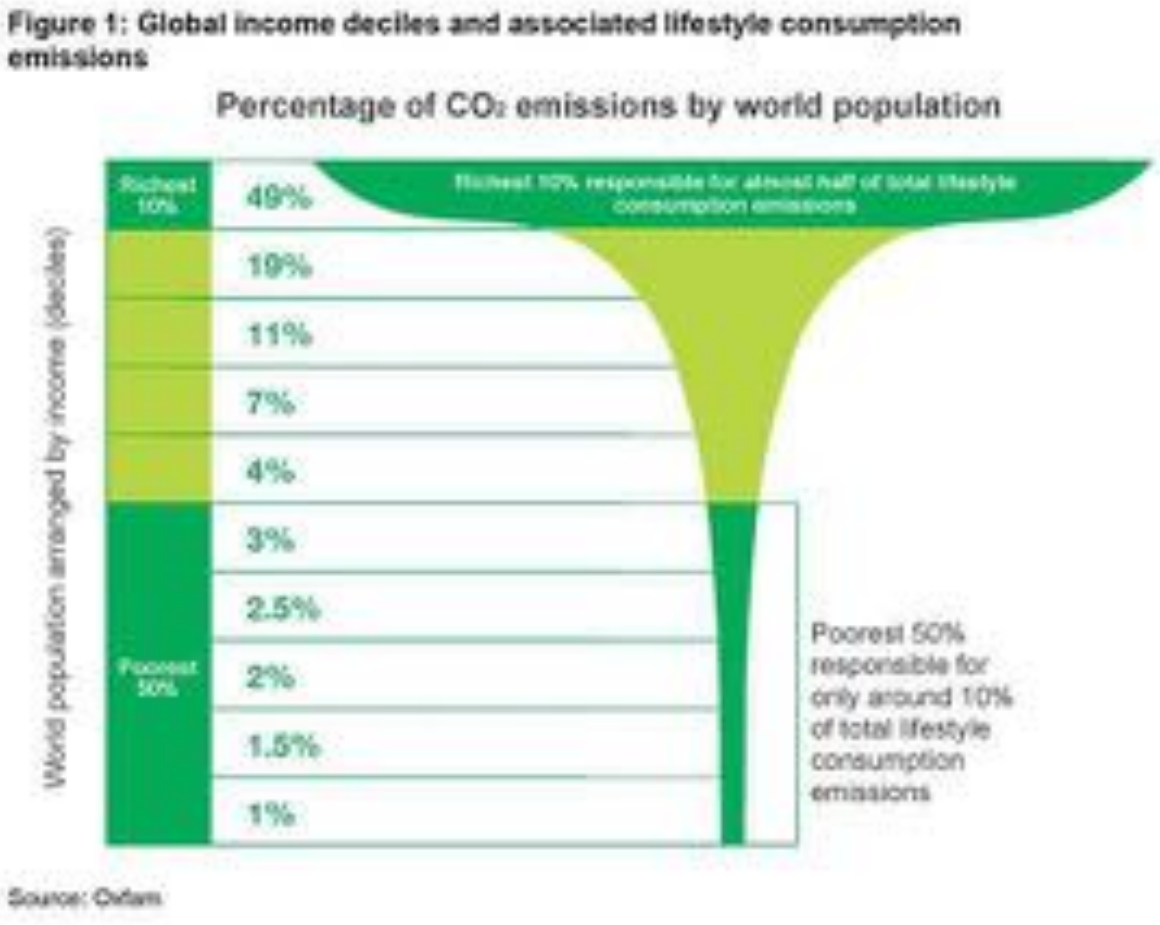
Political Demands, Bits & Bäume 2022

1. Digitisation within the planetary boundaries
2. Global justice and regional self-determination
3. Redistribution of technological design power, democracy and participation
4. Fair digitisation, sustainable technology design and social issues
5. Protection of digital infrastructure and IT security

https://bits-und-baeume.org/konferenz-2022/forderungen/#heading

Inequalities

- https://wiki.techinc.nl/Hackers_tribes#INEQUALITY



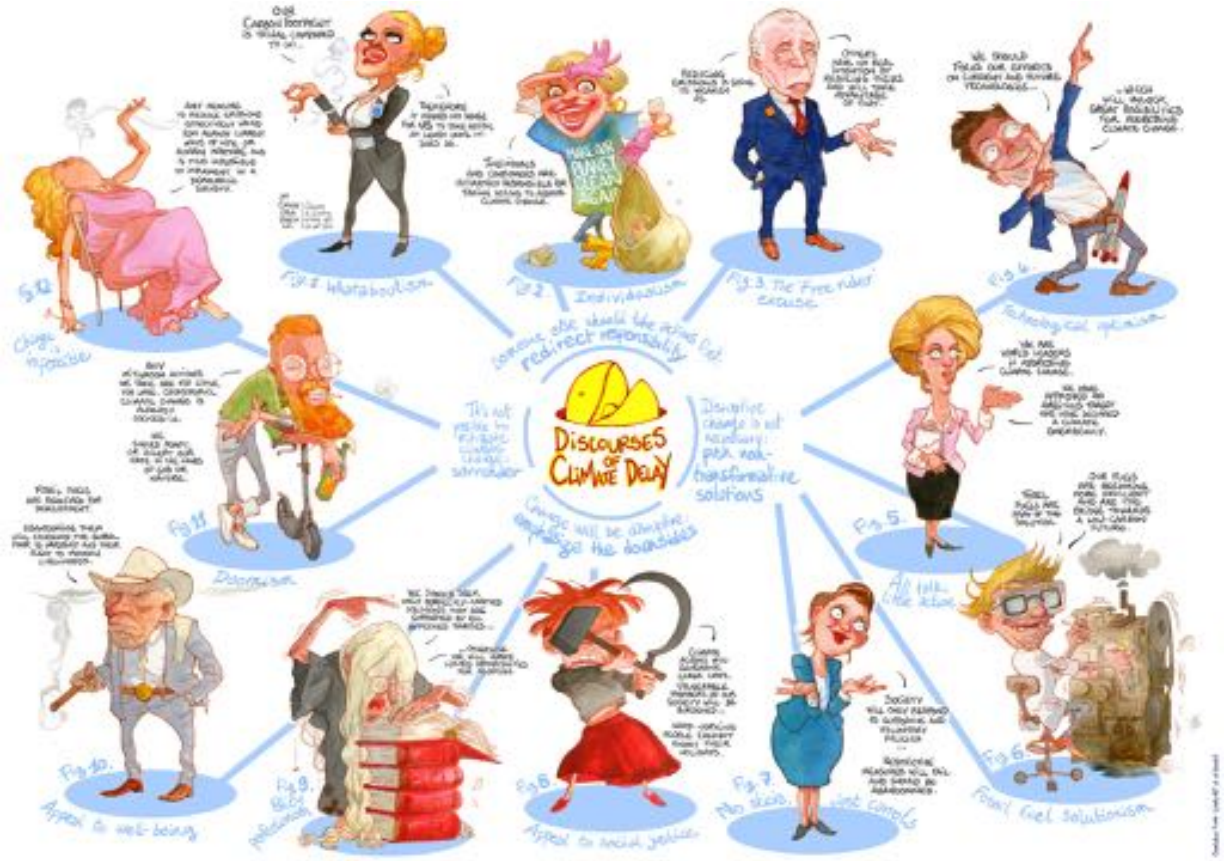

IF YOU HAVE COME HERE
TO HELP ME, YOU ARE
WASTING YOUR TIME.
BUT IF YOU HAVE COME HERE
BECAUSE YOUR LIBERATION IS
BOUND UP WITH MINE, THEN
LET US WORK TOGETHER.
- LILLA WATSON
Indigenous Australian visual artist,
academic, activist
#FEMINISTFRIDAY
FIGHT
INEQUALITY
≠

Technical Solutions

Beware of Myths & Biases & Excuses

- focused on growth
- efficiency myth (Jevons paradox)
- aligned with dominant power structures

- **Beliefs:**
  - “tech is neutral”
  - “we are the good guys” bias
  - tech optimism



Techies & Activists

- *Redirecting Technologies for the Deep Sustainability Transformation*
  - https://doi.org/10.14279/depositonce-16187.2
  - https://digitalization-for-sustainability.com/digital-reset/
- **Digitalization for Sustainability, 2022: TU Berlin**

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- **"Imagining an internet that serves environmental justice"**
  - APC 2020, Association for Progressive Communications
  - https://www.apc.org/en/project/technology-environmental-justice-and-sustainability
- **Sustainability of Quantum Internet (December 2022)**
  - https://github.com/becha42/ClimateJustice/blob/main/ReportHackathon2022.md

13 Propositions for the Internet in the Burning World

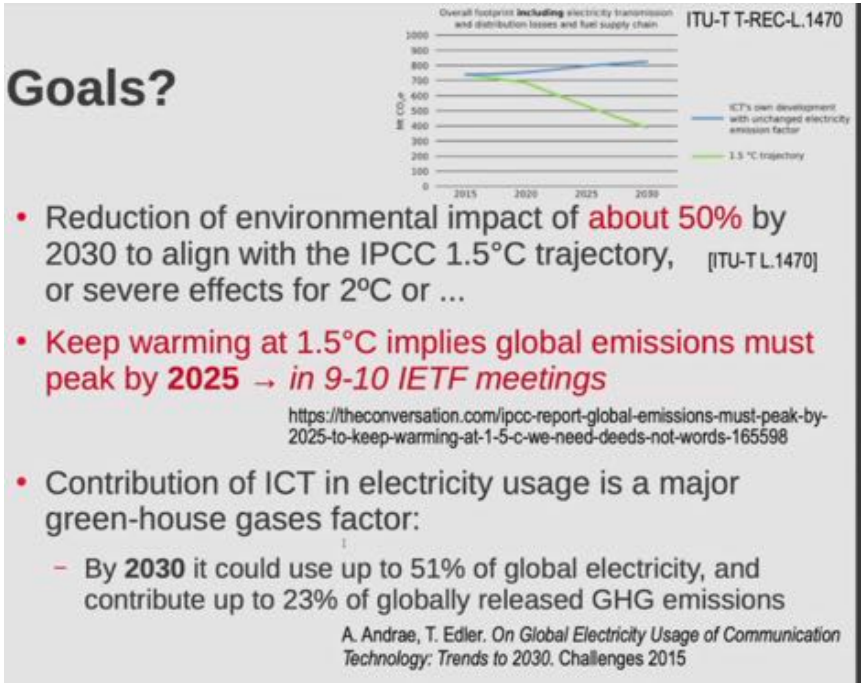
1. Operating systems requires operators to execute care, towards their system, their users, and the infrastructure as a whole.
2. The centralization of the Internet has been promoted by a lack of care.
3. There is a tension between privacy and security pitting decentralization vs. centralization.
4. Centralization and profit are inherently incompatible with care for infrastructures.
5. We have to be prepared for hypergiants' failing.
6. Communities caring for local and distributed infrastructure are the future in a world falling apart.
7. The slow adoption of IPv6 hinders a re-decentralization of the Internet.
8. In a burning world, functionality is more important than security, but remains trumped by safety.
9. Systems that are too complex to be understood by a single person cannot be sustainable.
10. Systems should enable a better tomorrow and not burn the world even further.
11. There are no technical solutions for social and societal problems.
12. I nternet sanctions: What once has been thought can never be taken back. The Internet will be falling apart.
13. Digital sovereignty is being used wrong.

(LINK)

- Tobias Fiebig, MPI INF, and Doris Aschenbrenner, Aalen University,
- RIPE85 (October 2022): https://ripe85.ripe.net/archives/video/877/

IETF

- **GAIA & OPSAWG**
- **https://irtf.org/gaia**



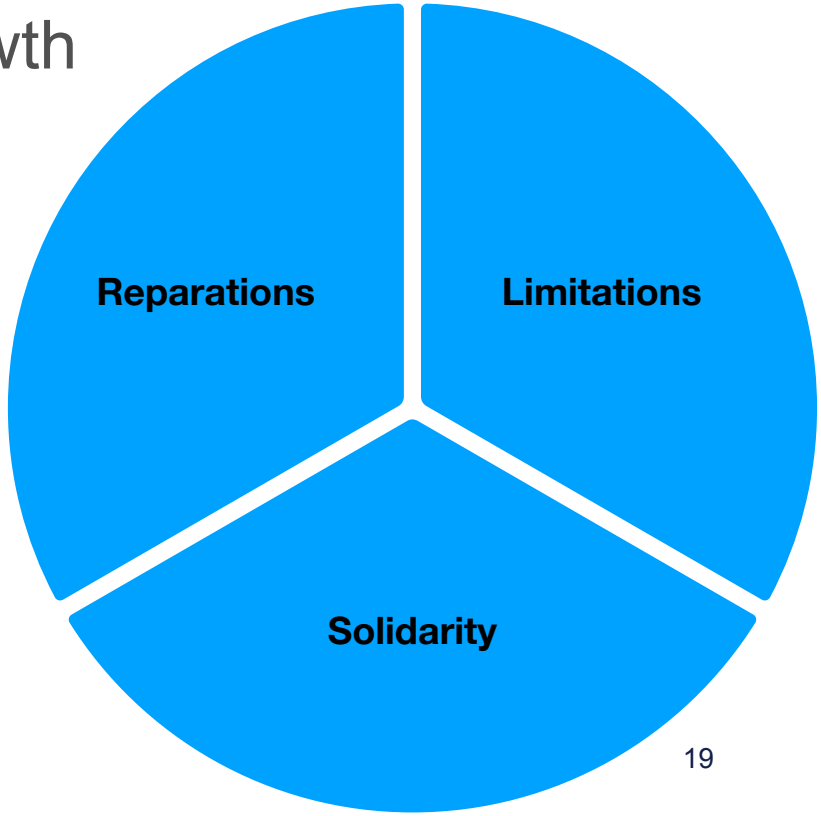
- **IETF / IRTF Docs**
  - https://www.ietf.org/blog/towards-a-net-zero-ietf/ &&
  - https://datatracker.ietf.org/doc/slides-113-gaia-the-internet-and-environmental-sustainability-revolutionary/ ^^^^
  - https://datatracker.ietf.org/doc/html/draft-cx-green-ps-00 && https://datatracker.ietf.org/doc/draft-eckert-ietf-and-energy-overview/
  - https://datatracker.ietf.org/doc/draft-nottingham-avoiding-internet-centralization/

Other Tech Communities & “Green” Topics

- **2021: GreenTech Events Every Month!**
  - https://labs.ripe.net/author/becha/green-tech-2021-compilation/
- **RIPE.net/events**
- **ACM SIGCAS** https://www.sigcas.org/events/sigcas-showcase-2022/
  - association for computing machinery - special interest group on Computers and Society
- **“Computing Within Limits”** conference & papers (2015-2022)
  - My talk at MCH2022: https://media.ccc.de/v/mch2022-442-computing-within-limits
- **SDIA**: Sustainable Digital Infrastructure Alliance : https://sdialliance.org

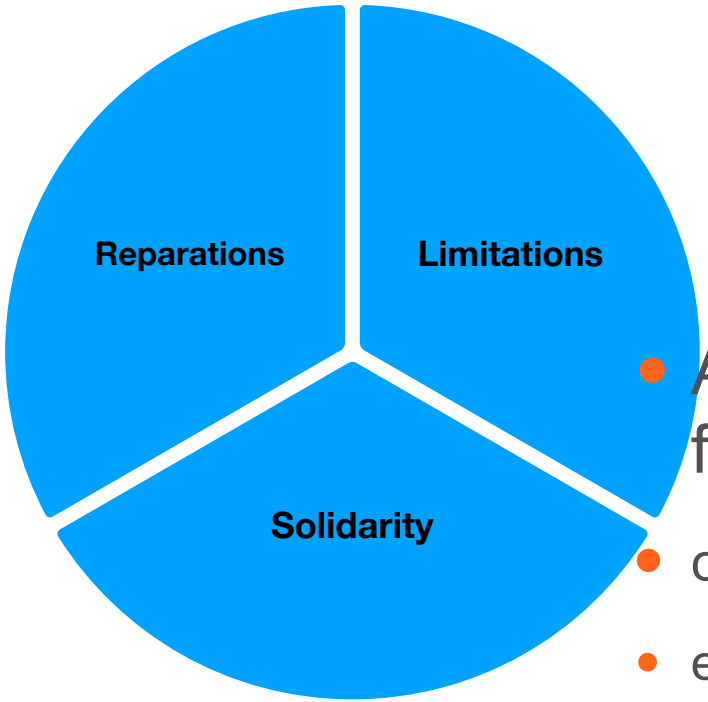
High Principles of Just Tech Governance

- “Towards Climate **Justice** in Tech”
  - https://labs.ripe.net/author/becha/towards-climate-justice-in-tech/
- **Limiting** extractivism & decreasing growth
  - **Reparations**: giving back to the most affected communities
  - Acting in **solidarity** with the frontline communities & centering marginalised groups; mutual aid



Three Principles Expanded

- **Reparations**
  - giving **back** to the most affected communities
  - removing harms (to the most affected communities) from products & services
  - supporting public infrastructure & commons



- **Limiting** extractivism
  - decreasing growth
  - investing in durable tech & slow tech & low tech
  - divesting from fossil fuel products & services
- Acting in **solidarity** with frontline communities ;
  - centering marginalised groups
  - engaging in decentralised decisions making
  - rejecting false climate solutions

Additional Links

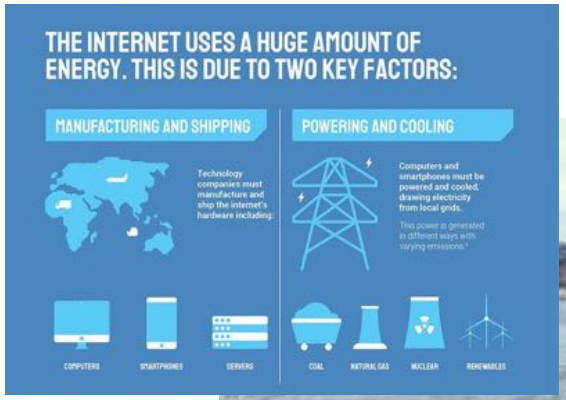
- https://labs.ripe.net/author/becha/ripe-community-resilience-economy-of-care/
- https://labs.ripe.net/author/becha/data-feminism-from-data-ethics-to-data-justice/
- https://labs.ripe.net/author/becha/computing-within-limits-2022-event-wrap/
- https://labs.ripe.net/author/becha/ripe-community-resilience-every-society-has-the-internet-they-deserv
- https://labs.ripe.net/author/becha/ripe-community-resilience-nature-is-healing/
- https://zenodo.org/record/7047049#.YzGNcy0RqgA (The Role of Life Scientists in the Biospheric Emergency)
- https://wiki.techinc.nl/Hackers_tribes#Other_animals_against_Technology
- https://en.m.wikipedia.org/wiki/Jevons_paradox
- https://archive.org/details/being-genuine-stop-being-nice-start-being-real-2/page/n11/mode/2up
- https://UnCiv.nl

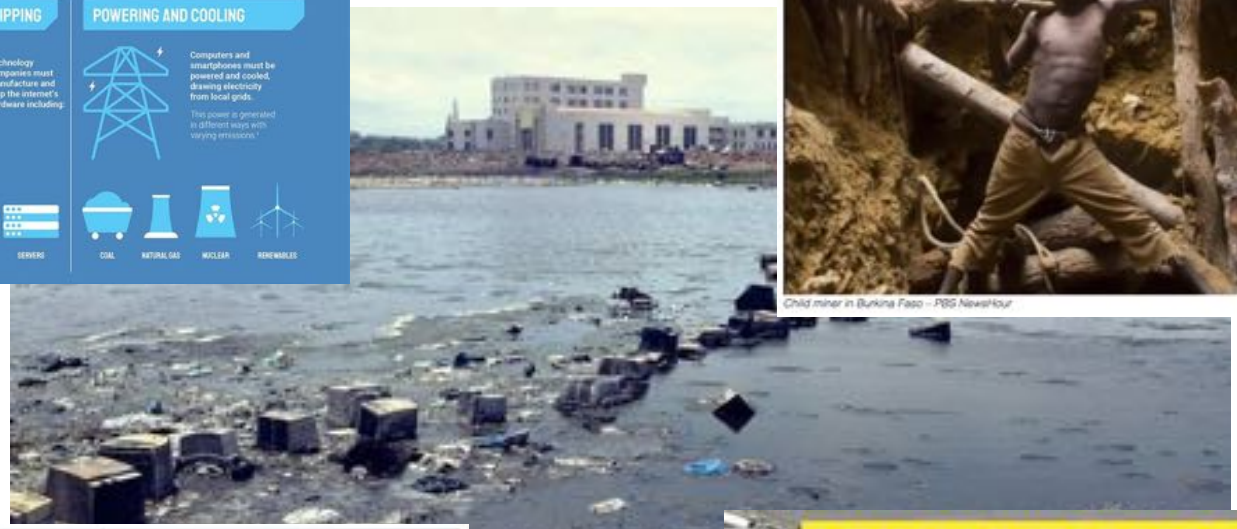
Problem Statements

Context

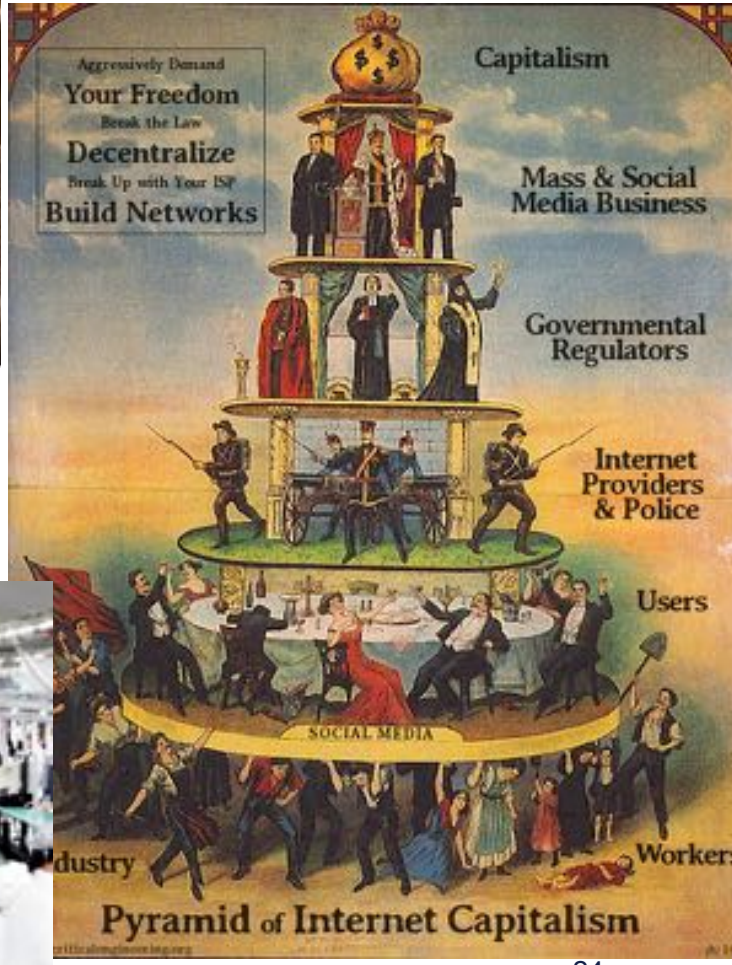
- **2020(2) = Third Year of Global COVID-19 Pandemic**
- **Wars in Ukraine, Armenia, Syria, Yemen…**
- **Climate Chaos…**
  - Summer heath-waves: draughts, forest fires, dry rivers, lack of drinking water…
  - Floods in Pakistan, Texas, Middle-East, Africa, Australia, Italy, Puerto Rico, Japan…
  - Glaciers melting in Alps, Andes, Himalayas, Greenland, Alaska…
  - Upcoming “hunger winter” with inadequate heating infrastructure…
- **Still, I am grateful for being alive, safe, healthy-ish**

“Data is the New Oil” & Digital Colonialism






Child miner in Burkina Faso – PBS NewsHour




A child at the Agbogbloshie electronic waste dump in Ghana. Photograph: Andrew McConnell/Alamy

Nature is Fighting Back

- impact on the the operations of Internet infrastructure:

- **Sea-level rise & storms: flooding of data centers**
  - https://labs.ripe.net/author/ggm/surviving-the-flood-how-data-centres-and-the-internet-must-face-climate-change/
- **… & forest fires** https://www.akcp.com/blog/data-centers-coping-with-climate-change-induced-wildfires/
- **Water (un)availability for cooling power-plants & data centers:**
  - https://www.datacenterdynamics.com/en/opinions/why-data-centers-need-to-talk-about-water/
- **Energy over-consumption leads to (un)availability**
  - https://www.consultancy.uk/news/28772/10-ways-businesses-can-reduce-their-digital-carbon-footprint
  - … taking water, land & energy **away** from local (human/plant/animal) populations

Een datacenter van Google in Middenmeer.


SELF-ACTUALISATION
Pursue Inner Talent
Creativity Fulfillment
SELF-ESTEEM
Achievement Mastery
Recognition Respect
BELONGING - LOVE
Friends Family Spouse Lover
SAFETY
Security Stability Freedom from Fear
PHYSIOLOGICAL
Food Water Shelter Warmth
WiFi
battery