



**RIPE NCC**  
RIPE NETWORK COORDINATION CENTRE

# Internet Governance, Climate Justice & “Scientist Rebellion”

*Low Carbon and Sustainable Computing Seminar  
School of Computing Science  
University of Glasgow*

Vesna Manojlovic | [BECHA@ripe.net](mailto:BECHA@ripe.net) | March 2023

# Today's Context

## ● Polycrisis

- “simultaneous occurrence of several catastrophic events”
- <https://developingeconomics.org/2023/01/27/whose-polycrisis/>



<https://www.theguardian.com/commentisfree/2023/mar/03/everyone-is-anxious-exhausted-in-a-flap-how-can-we-help-ourselves-to-get-by>

- Introducing Myself: Community Builder @ RIPE NCC
  - & speaker, hackathon organiser, diversity advisor, on SEE PC, CoC /TC Team etc
  - Mother, neurodivergent, expat/emigrant, C-PTSD, LGBTQ\* & ally
  - Hacker, Activist, Feminist, Artist: <https://becha.unciv.nl/>
- Previously:
  - programmer, user support, trainer (IPv6,BGP,DNS,RPKI)
  - recovering techno-optimist => aspiring anarchist



# History of RIPE, RIPE NCC & Internet Governance

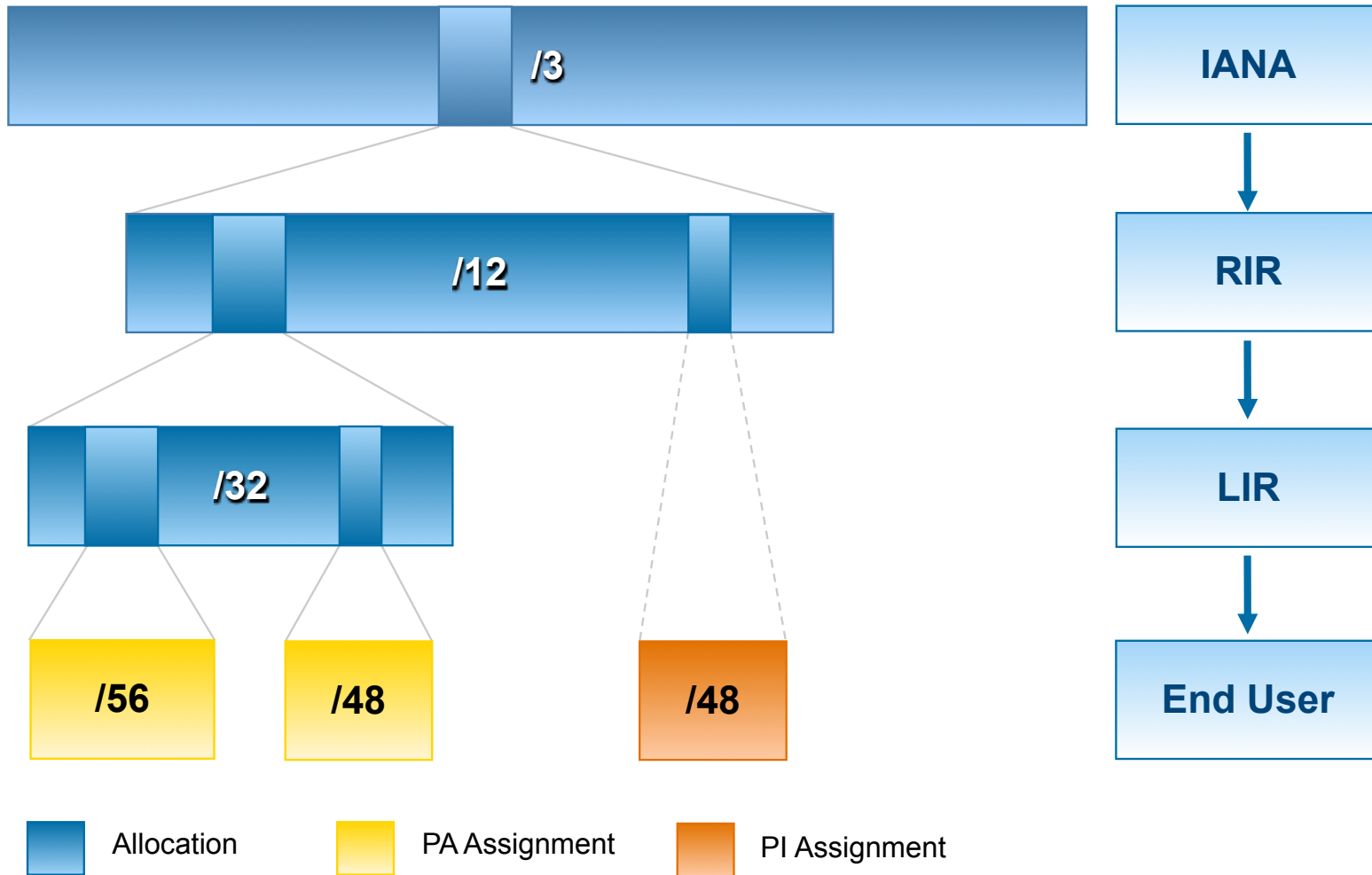


Ingrid Burrington

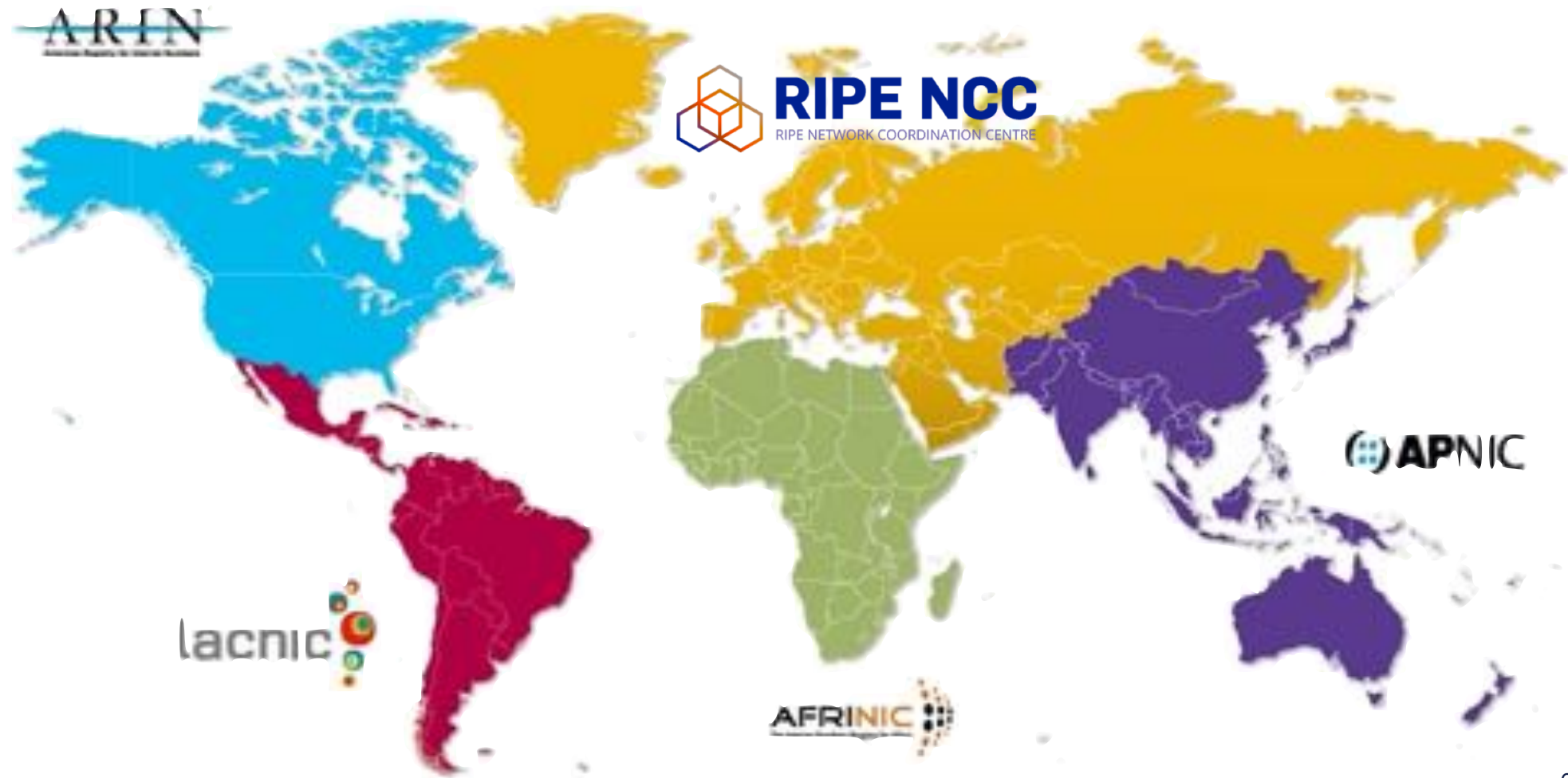
Vesna M

<https://splinternews.com/who-controls-the-internet-ted-cruzs-fantasy-vs-the-re-1793861684>

# IPv6 Addresses Distribution



# Regional Internet Registries

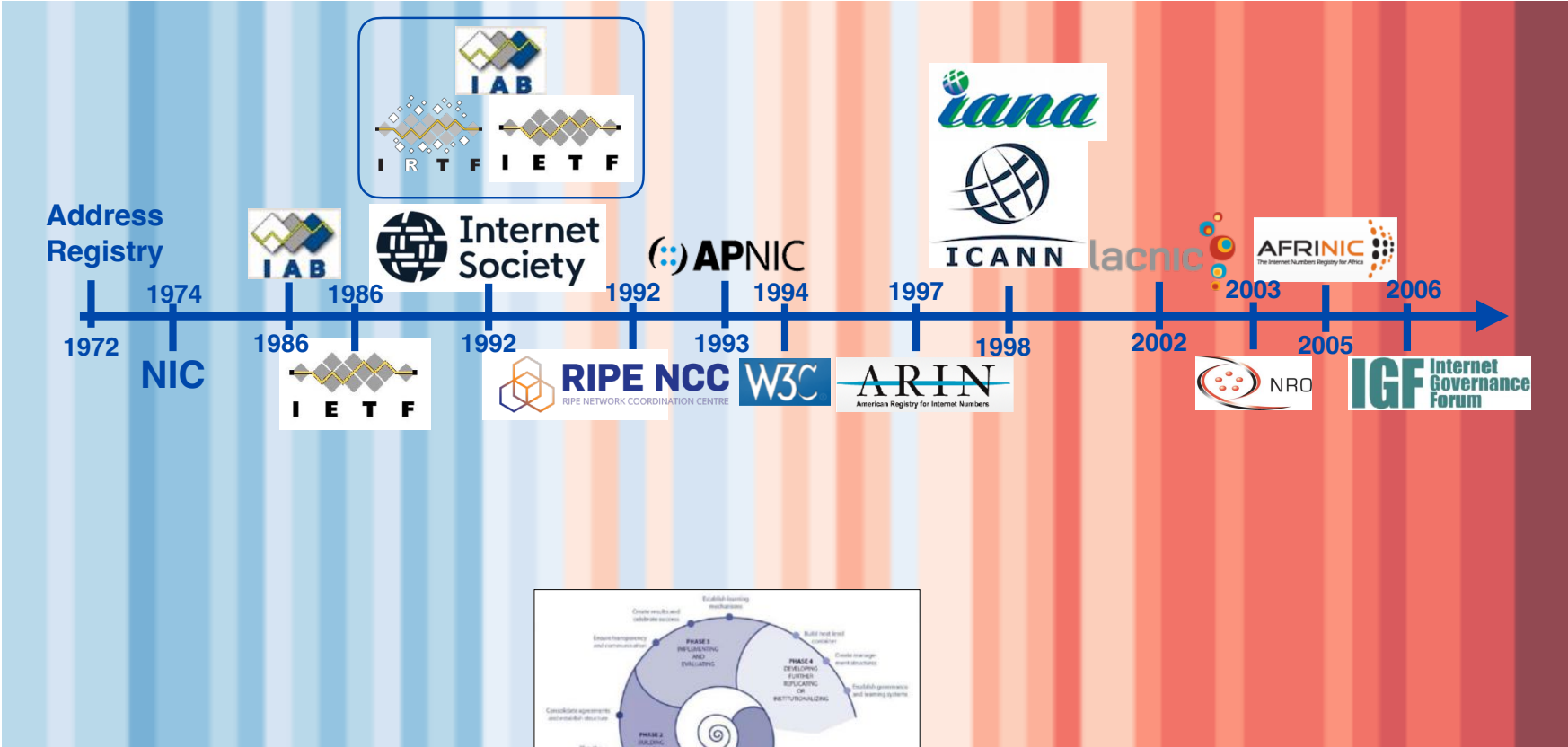


# RIPE (community) and the RIPE NCC



- Learn more: Academy course on Internet Governance: <https://academy.ripe.net/enrol/index.php?id=14>
- [ripe.net/training](https://ripe.net/training)

# Internet Governance Timeline & Global Warming





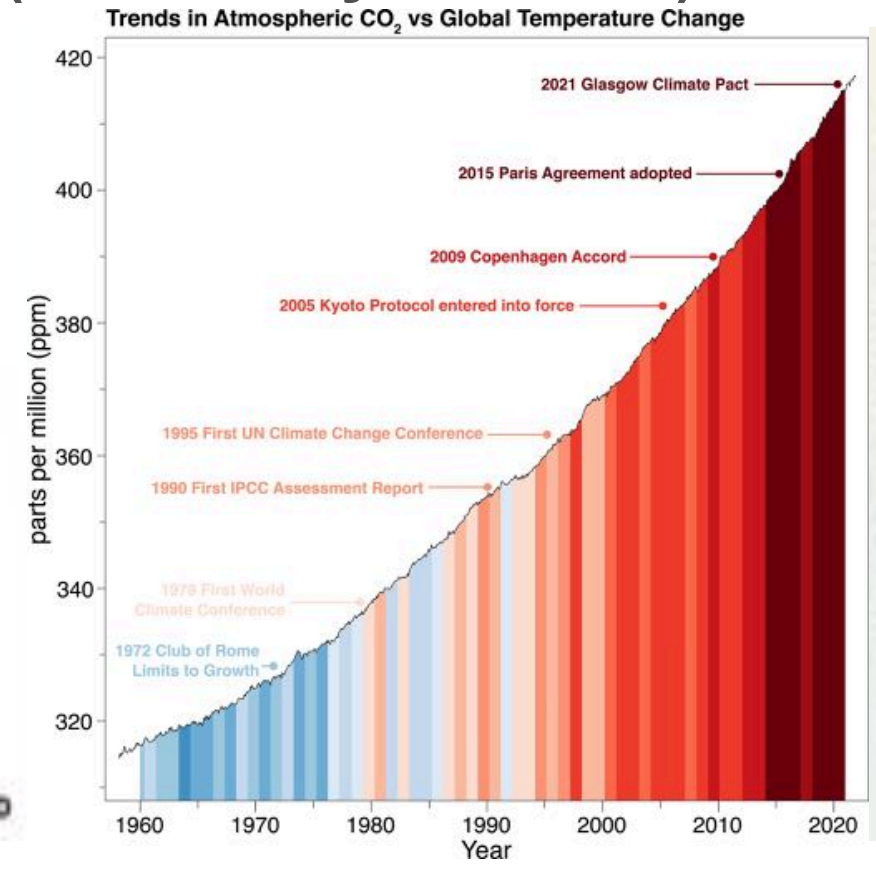
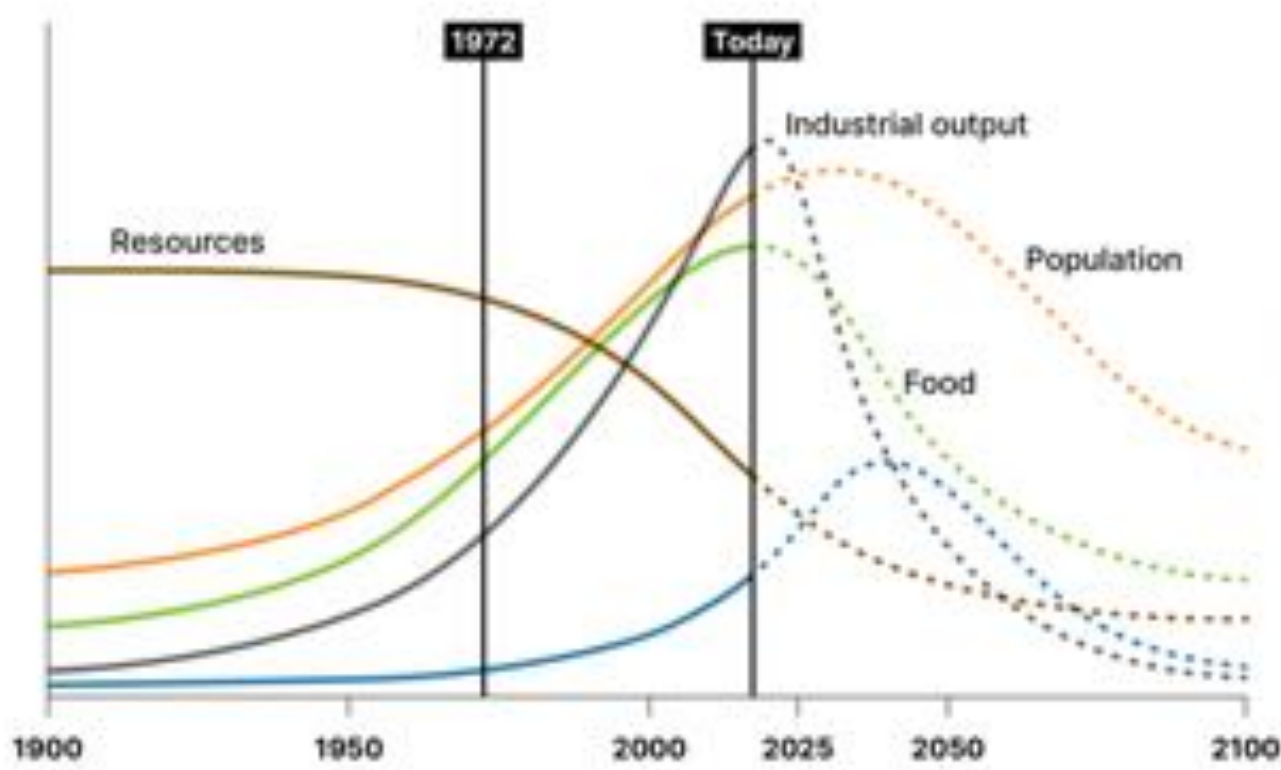


# Problems & Suggestions

# Resources Overuse, Emissions Growth



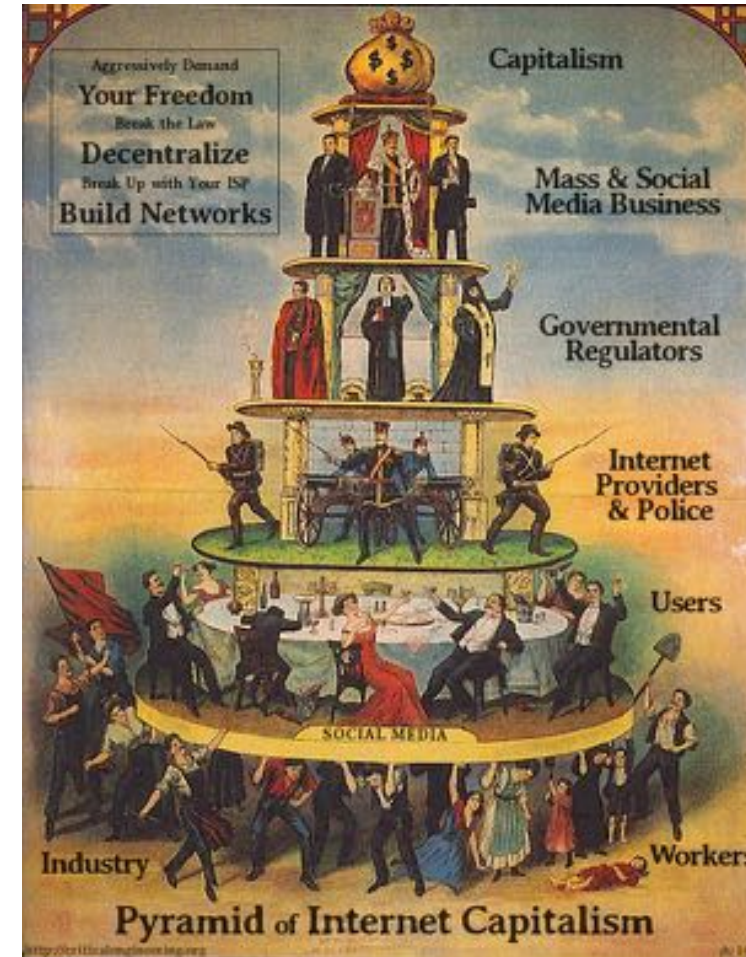
- “Limits to Growth” (1972) & IPCC (1979-today / COP 37)



# Digital Colonialism, Inequalities, Oppressions...



Child miner in Burkina Faso - PBS NewsHour



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



# Beware of Myths, Biases & Excuses for Delay

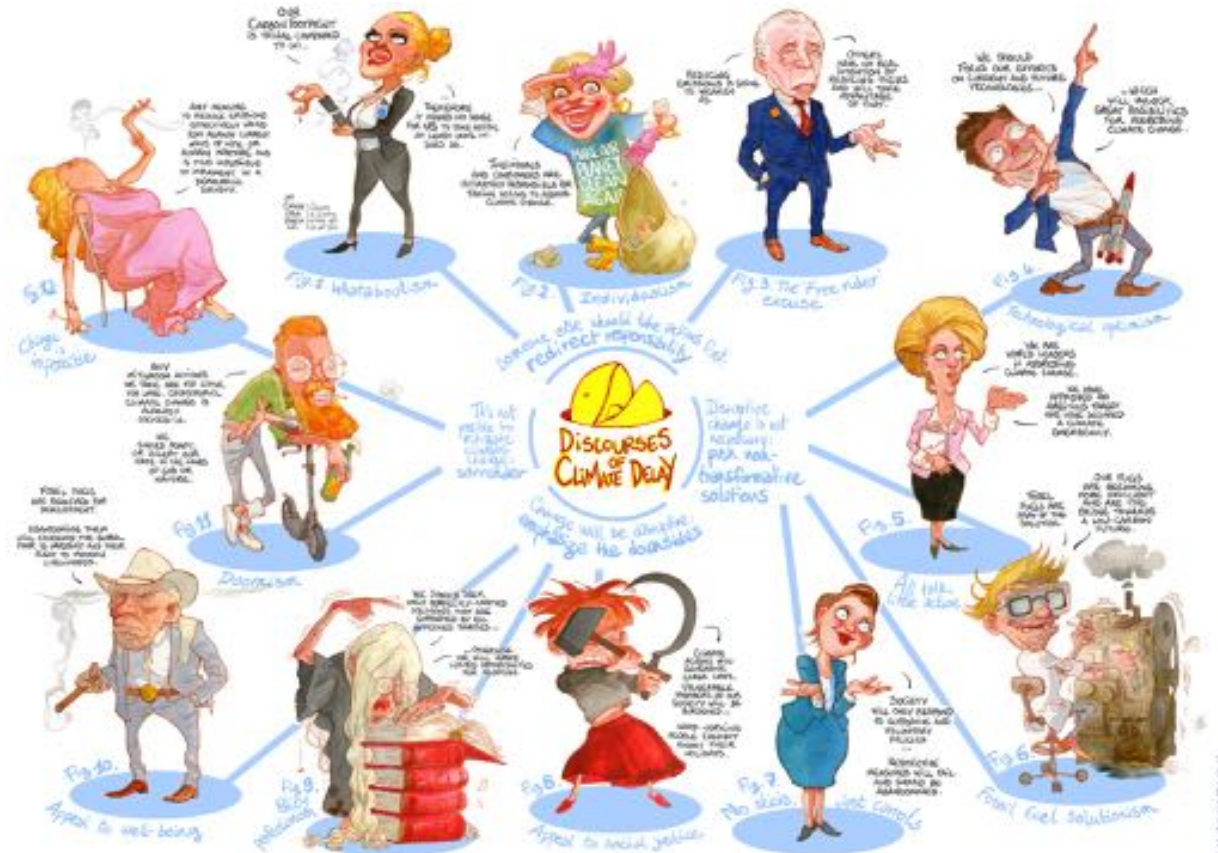


## ● Problems:

- focused on growth
- aligned with dominant power structures

## ● Beliefs:

- “tech is neutral”
- “we are the good guys” bias
- efficiency myth (Jevons paradox)
- techno-optimism



# IAB e-impact Workshop Timeline & Future



- **IAB Workshop: December 2022**
  - 30 papers 40 presentations and 50 knowledgeable & opinionated participants
  - <https://www.iab.org/activities/workshops/e-impact/>
  - <https://labs.ripe.net/author/becha/a-plea-for-climate-justice-report-from-the-iab-workshop-on-e-impact>
- **Draft report published in January 2023; now on version -01**
  - <https://datatracker.ietf.org/doc/draft-iab-ws-environmental-impacts-report/>
- **IETF 116: 20-26 March 2023**
- **RIPE 86: May 2023 (my talk got accepted!)**
- **Later in 2023: IETF 117 & IETF 118 (Prague); RIPE87; etc...**

# IAB: 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

# My Suggestions for IAB 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](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!

# My (new) Recommendations for RIPE



- **Urgency**

- this is an emergency!
- we have to act now

- **De-Growth**

- decreasing consumption & emissions, decelerating growth, decide together

- **Rebellion**

- reject fossil fuels
- re-think existing power structures
- take responsibility for global impact & systemic changes





Join RIPE

# Green Tech at RIPE



GHG	Water
63%	83%
22%	9%
15%	7%

## To Green the Internet, We Need RIPE

Michael Oghia · 29 Jun 2020

If Europe is going to realise its vision for a greener ICT ecosystem and a sustainable future, support from the RIPE community is imperative. But what can you do - as a network operator and as a user - to work towards a sustainable Internet?

sustainability policy community

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## What Do We Do With E-Waste?

Mirjam Kühne · 9 Nov 2018

The headlines are raising awareness about the plastic soup that's clogging up our oceans but there's another problem much closer to home for much of the RIPE community: e-waste (aka 'dead electronics'). E-waste is a massive contributor to environmental pollution globally. We want to keep the conver...

sustainability community

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## Sustainability is Good for the Internet (and Business too)

Michael Oghia · 23 Jun 2017

In recent weeks, I've attended two events, SEE 6, hosted by the RIPE NCC in Budva, Montenegro, and the 10th European Dialogue on Internet Governance (EuroDIG) in Tallinn, Estonia. At both events, I had the opportunity to speak about the issue of sustainable access to the Internet.

sustainability governance

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- **RIPE81 (October 2020): Sustainable ICT Procurement**
  - Michael Oghia, Independent Community Member
  - <https://ripe81.ripe.net/programme/meeting-plan/bof/#mon1>
- **RIPE84 (May 2022): Towards a Fossil Free Internet**
  - Chris Adams, Green Web Foundation
  - <https://ripe84.ripe.net/archives/video/751/>
- **RIPE85 (Oct.2022): "13 Propositions for the Internet in the Burning World"**
  - Tobias Fiebig, MPI INF; Doris Aschenbrenner, Aalen Uni.
  - <https://ripe85.ripe.net/archives/video/877/>

# Take Part in RIPE / NCC Communities



- **Join RIPE meetings**

- Twice a year, hybrid; ~1000 participants; network operators et.al
- Become WG-chair or volunteer on the Programme Committee

- **Reach out to RIPE: write for RIPE Labs: <https://labs.ripe.net>**

- **Join smaller events organised by RIPE NCC**

- Regional meetings / Training courses & on-line education / Hackathons

- **Academic Cooperation! [ripe.net/raci](https://ripe.net/raci)**

- & 50€ student ticket for the whole week of RIPE meetings!

# Join RIPE Working Groups & Mailing Lists



- **Interesting for students & researchers too!**
- Cooperation-WG
- Opensource-WG
- Measurements, Analysis & Tools (MAT) WG
- DNS-WG, Anti-abuse-WG
- DB-WG, IoT-WG, Routing-WG
- Connect-WG, IPv6-WG, (IPv4) Address Policy
- [ripe.net/ripe](https://ripe.net/ripe)
- [forum.ripe.net](https://forum.ripe.net)

# RIPE Community Accessibility



- **Community Projects Fund: [ripe.net/cpf](https://ripe.net/cpf)**
- **Diversity & Inclusion @ our events**
  - RACI & Fellowship funding
  - Mentoring programme
  - Free (diversity) tickets for speakers
  - Safety: Code of Conduct & “Trusted Contacts” available
  - Paid childcare for parents
- **Bottom-up power distribution: community self-governance**



# Upcoming [ripe.net/events](https://ripe.net/events)

- [ripe.net/see-11](https://ripe.net/see-11)

- 4-5 April, Split, Croatia: RIPE NCC Regional South Eastern Europe meeting

- [ripe86.ripe.net/cfp](https://ripe86.ripe.net/cfp)

- 22-26. May, Rotterdam: RIPE86 meeting

- <https://www.netnod.se/join-the-dns-hackathon-2023>

- 20-21. May, Rotterdam: DNS hackathon

- [ripe.net/ripe-ncc-days-sofia](https://ripe.net/ripe-ncc-days-sofia)

- Sofia: 27-28 June 2023: RIPE NCC Days



scientist rebellion\_





1860s - 1910s, England

Statistician Florence Nightingale & physician Elizabeth Garrett Anderson, women's suffrage movement



1920s, Brazil

Biologists from National Museum, environmental protection



1960 - present, USA  
Science for the People collective, anti-war and social justice



2020s, Worldwide

Scientist Rebellion, climate and ecological breakdown

1860

1890

1920

1950

1980

2010



1957, USA & Europe

Nobel winners' Russell-Einstein Manifesto, abolition of atomic weapons and war



1988 - present, USA

Climatologist James Hansen, climate change



2018 - present, Argentina

Biologist Esteban Servat, social struggles and environmental abuse



# Science/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.<sup>210</sup>

<https://www.nobelprize.org/prizes/peace/1995/rotblat/lecture/>



With Great  
Power  
Comes  
Great  
Responsibility

# Two Recent Political / Tech 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*



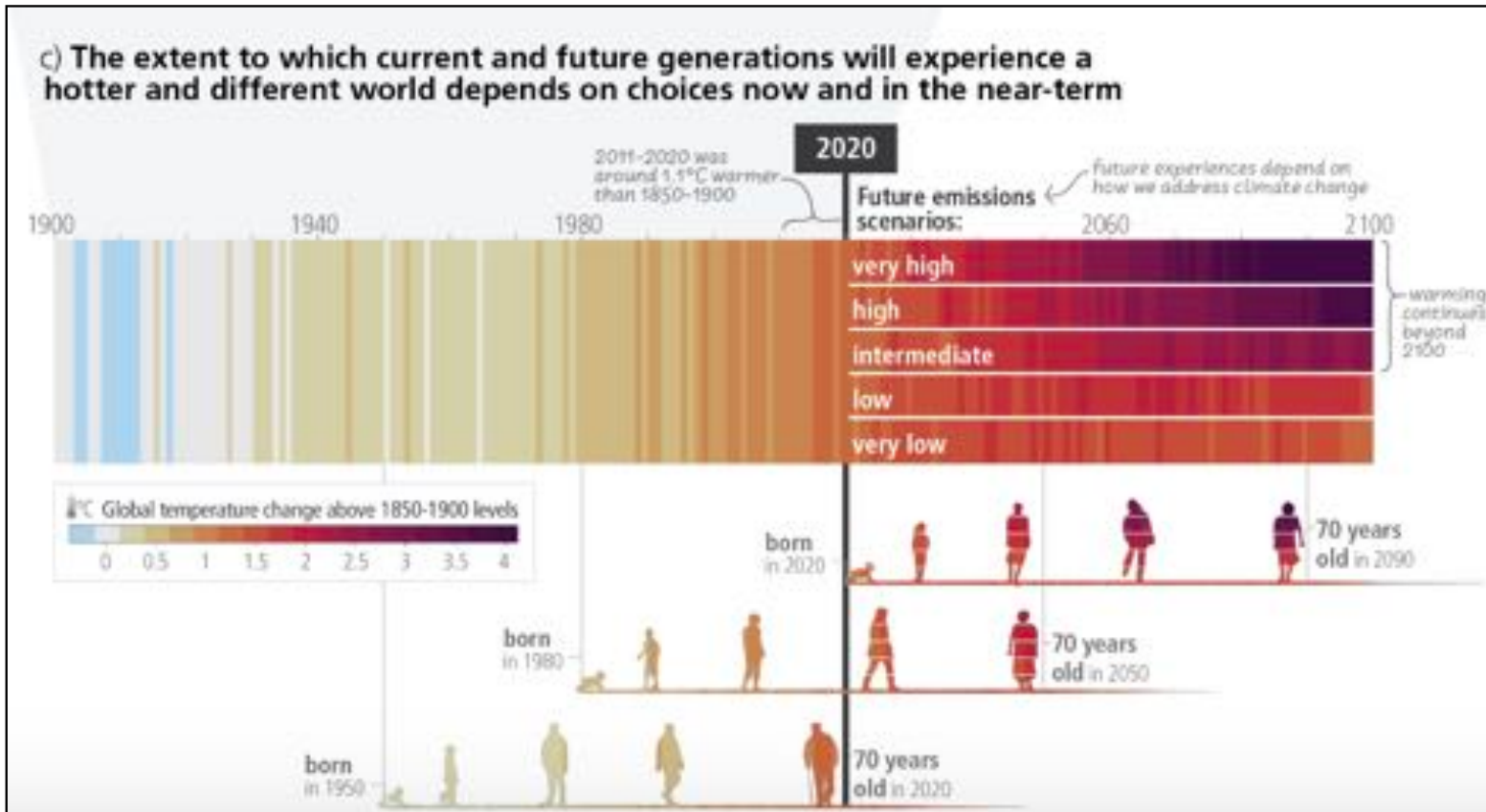
“Digital Reset”, TU Berlin, 2022

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.

# Latest IPCC (AR6) Report

- 20.3.2023 <https://www.ipcc.ch/report/ar6/syr/>



Vesna Manojlovic | LOCOS Seminar | March 2023

18:00  
Mastodon  
theguardian.com

**Climate crisis**  
Scientists deliver 'final warning' on climate crisis: act now or it's too late

**IPCC report says only swift and drastic action can avert irrevocable damage to world**

- **Analysis: Humanity at the crossroads**
- **Timeline: The IPCC's reports**

**Fiona Harvey** *Environment editor*  
Mon 20 Mar 2023 13:00 GMT

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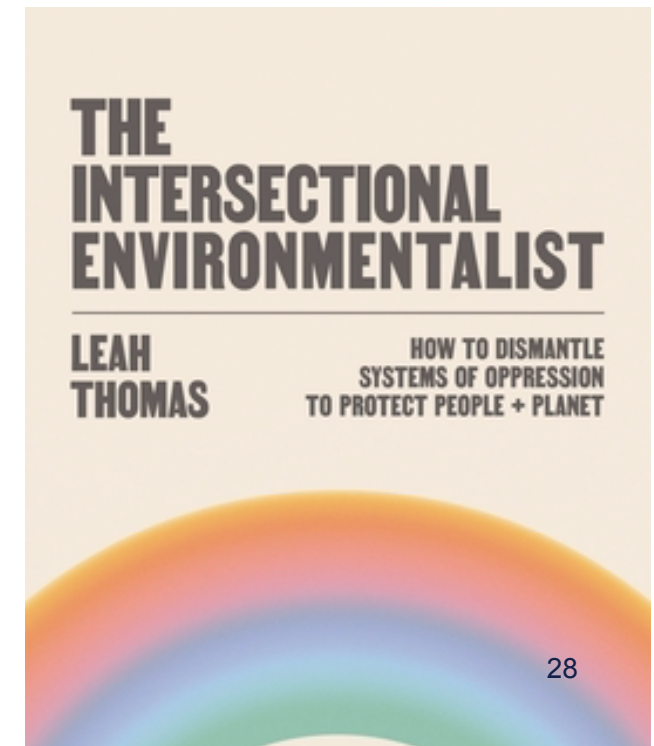
Scientists have delivered a "final warning" on the climate crisis, as rising greenhouse gas emissions push the world to the brink of irrevocable damage that only swift and drastic action can avert.

The Intergovernmental Panel on Climate Change (IPCC), made up of the world's leading climate scientists, set out the **final part of its mammoth sixth assessment report** on Monday.

# 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 Environmentalism
- Extinction Rebellion, Scientists Rebellion,
  - Youth Rebellion, Mothers Rebellion...



# Digital Rights & Climate Justice Communities



## ● Join

- [APC.org](https://apc.org)
- [RightsCon.org](https://rightscon.org)
- [Bits und Bäume](https://bitsundbaeume.de)
- [digital-rights-climate-justice@groups.io](mailto:digital-rights-climate-justice@groups.io)

## ● Events:

- 15-17 May: EU Parliament Beyond Growth, Brussels (& online) <https://www.beyond-growth-2023.eu/about-beyond-growth/>
- DeGrowth Conference: 29.8. Zagreb <http://odrast.hr/>
- UN: GDG <https://www.un.org/techenvoy/global-digital-compact>

## Scientists Rebellion



11 March 2023, XR Demo, The Hague, NL

# Conclusions & Summary

- **Climate Justice: Act Now!**

- this is an emergency!
- focus on action

- **Internet Governance & De-Growth**

- decreasing consumption & emissions, decelerating growth, **deciding together**

- **Rebellion.Global**

- reject fossil fuels
- re-think existing power structures
- take responsibility for global impact & systemic changes : join us!





# Discussion

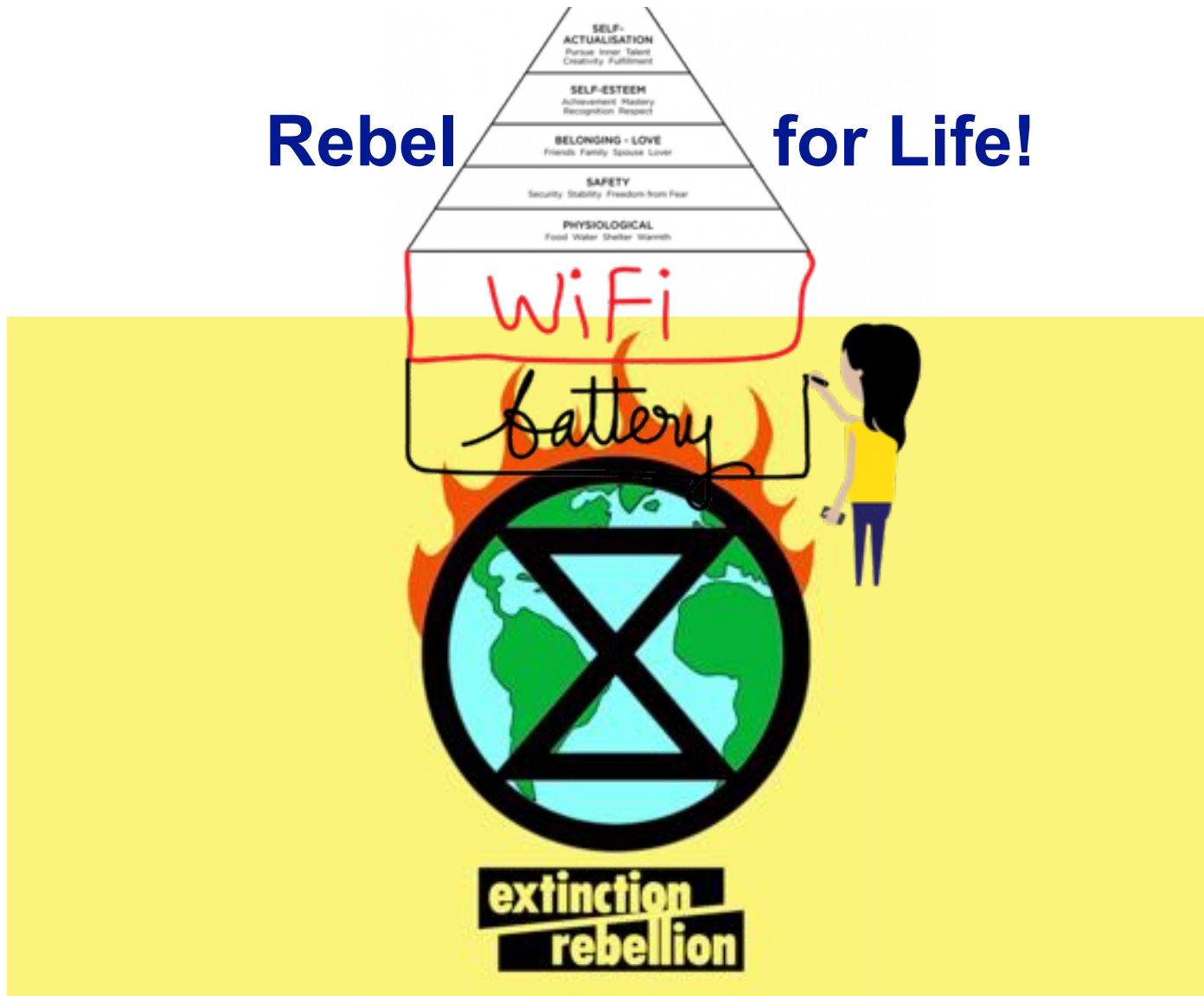


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Personal: [@becha@v.st](mailto:@becha@v.st)

# Rebel for Life!







# Extra Slides & Links

# My Older talks: Ethics, Equity, Sustainability



- **Ethics**

- SHA2017 <https://www.youtube.com/watch?v=IDfkQo0DOYo>
- Afnic Scientific Council Day, JCSA 2018 <https://www.ripe.net/about-us/press-centre/publications/presentations/2018/ethics-of-internet-measurements-2013-example-of-ripe-atlas-jcsa-18>

- **Equity: SEE-10, 2022:** <https://youtu.be/NRiww-FC0Uc?t=14200>

- **Environmental Sustainability**

- MCH2022, <https://media.ccc.de/v/mch2022-442-computing-within-limits>
- Bits & Bäume <https://media.ccc.de/v/bitsundbaeume-19907-greening-ripe-thought-activism-and-empathy-en->

- **“Towards Climate Justice in Tech”**

- <https://labs.ripe.net/author/becha/towards-climate-justice-in-tech/>

<https://datafeminism.io/>

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

# Principles of Degrowth



## Sustainability

Never deteriorate supporting ecosystems



## Circularity

Waste not, want not



## Cooperation

People and planet, not profit



## Useful Production

What is not needed should not be made



## Sharing

Sufficiency for all, excess for none



## Local Production

Produce local, consume local



## Work-Life Balance

Work less, play more



## Relational Goods

Less stuff, more relationships



## Joie De Vivre

If I can't dance, I don't want to be part of your economy!

Source: <https://tel.archives-ouvertes.fr/tel-02499463/document>

## My Top 10 21st-Century Alternative Economic Theory Books

- Giving Economy, Heather Marsh (in "Binding Chaos", 2013)
- Post-carbon Economy, Naomi Klein (in "On Fire", 2021)
- Caring Economy, Riane Eisler (2007) : <http://caringeconomy.org/>
- Decolonising Economics, Nonhlanhla Makuyana (2021) <https://decolonisingeconomics.org/>
- Ecofeminism, Maria Mies and Vandana Shiva (2014) <https://www.environmentandurbanization.org/ecofeminism>
- Mutualism, Sara Horowitz (2021)
- Doughnut Economics, Kate Raworth (2017 ) <https://doughnuteconomics.org/>
- Mission Economy, Mariana Mazzucato (2021)
- The Support Economy: Shoshana Zuboff (2002) <http://www.thesupporteconomy.com/>
- Enlightenment Economics, Diane Coyle (in "The Economics of Enough", 2011)

- <https://labs.ripe.net/author/becha/ripe-community-resilience-economy-of-care/>

# Science & Ethics of De-Growth



- **‘Better knowledge is possible’ inaugural address as Chair of Science, Technology & Society, University of Twente**
  - <https://vimeo.com/760282599> & <https://www.utwente.nl/en/academic-ceremonies/inaugural-lectures/booklets/booklets-2022-2023/inaugural-booklet-professor-esther-turnhout-14-october-2022.pdf>
- **“Resplendent care-full climate revolutions”, Farhana Sultana**
  - <https://www.farhanasultana.com/wp-content/uploads/Sultana-Resplendent-Climate-Revolutions-2022.pdf>
- **“Handbook of Critical Environmental Politics”**
  - <https://www.e-elgar.com/shop/gbp/handbook-of-critical-environmental-politics-9781839100666.html>

# “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. Internet sanctions: What once has been thought can never be taken back. The Internet will be falling apart.
13. Digital sovereignty is being used wrong.

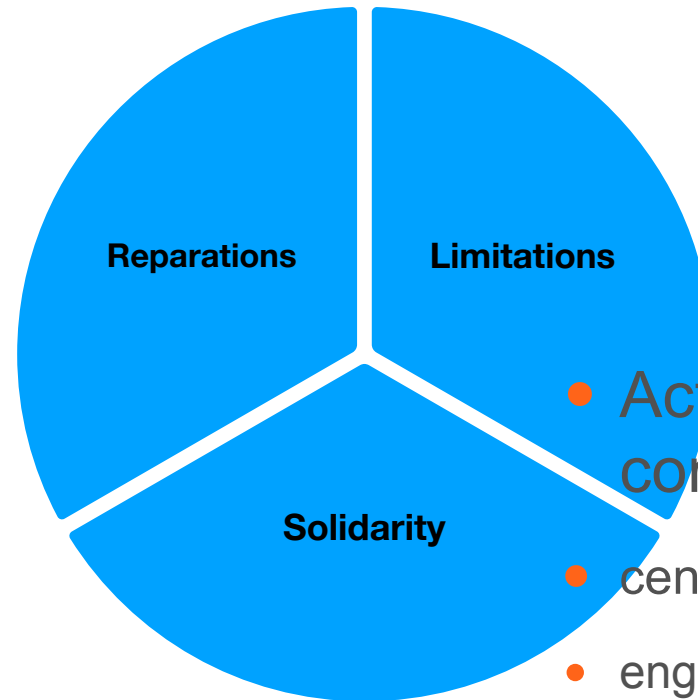
(LINK)

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

# Principles of Just Tech Governance

- **Reparations**

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



<https://labs.ripe.net/author/becha/towards-climate-justice-in-tech/>

- **Limiting** extractivism

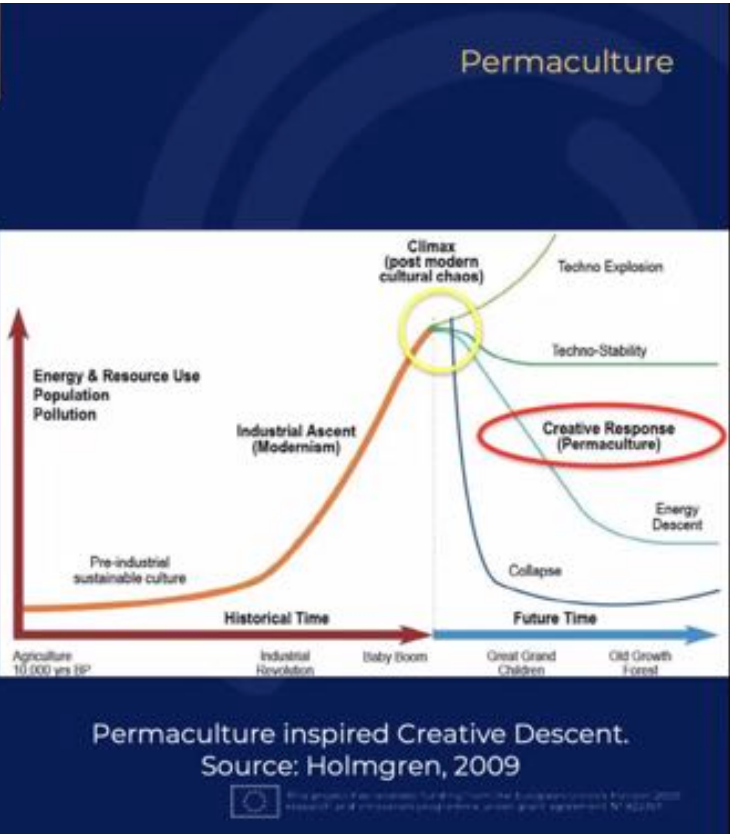
- decreasing growth
- investing in durable tech & slow tech & low tech
- divesting from fossil fuel products & services

- Acting in **solidarity** with frontline communities ;

- centering marginalised groups
- engaging in decentralised decisions making
- rejecting false climate solutions (e.g. Carbon Offsetting <https://www.youtube.com/watch?v=6p8zAbFKpW0> )



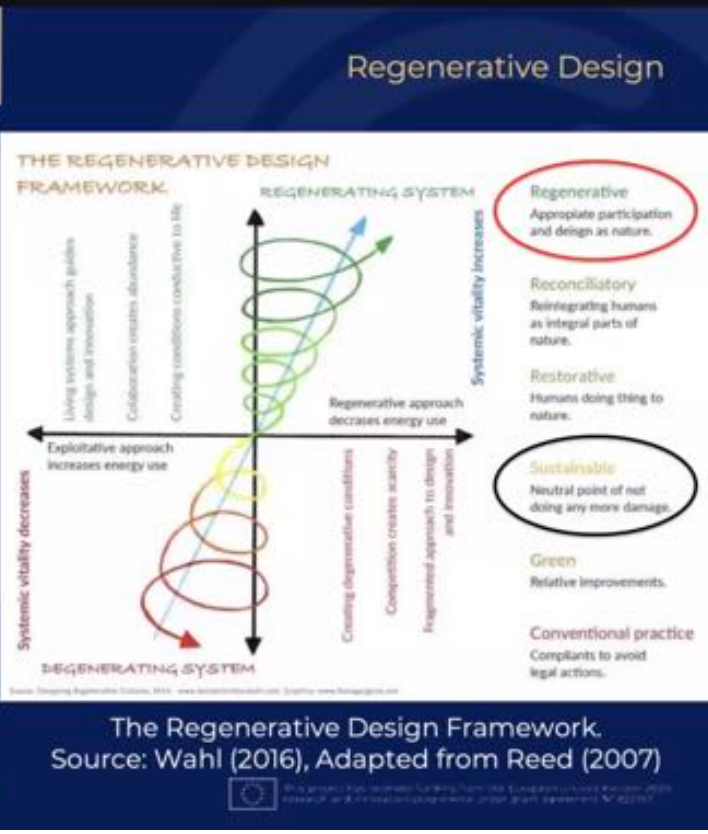
- URBAN ARENAS FOR SUSTAINABLE AND JUST CITIES
- 1) Techno-Fantasy, the delusion that infinite growth can occur on a finite planet.
  - 2) Crash, Mad Max Collapse
  - 3) Green-Tech Stability, (where today's non-sustainable levels of 1.6 Earths is maintained?)
  - 4) Creative Descent, or Earth Stewardship, return to living within the earth's limits



URBAN ARENAS FOR SUSTAINABLE AND JUST CITIES

From Sustainability (doing less damage to the environment) to regenerative design (Appropriate participation and design as nature)

This transcends and includes sustainability, in a holistic systems approach to "reverse the degeneration of the earth's natural systems, but also to design human systems that can coevolve with natural systems" (Mang & Reed, 2013).







- <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-deserve/>
- <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://en.m.wikipedia.org/wiki/Jevons\\_paradox](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://labs.ripe.net/author/becha/you-are-not-alone-ripe-community-resilience/>
- Phillip Rogaway: “The Moral Character of Cryptographic Work” [web.cs.ucdavis.edu/~rogaway/papers/moral.p](http://web.cs.ucdavis.edu/~rogaway/papers/moral.p)
- Allison Parrish: “Toward a New Hacker Ethic” <http://opentranscripts.org/transcript/programming-forgetting-new-hacker-eth>
- “Philosophy meets Internet Engineering: Ethics in Networked Systems Research”
- Langdon Winner: “Do Artefacts Have Politics?” (1980) <http://www.jstor.org/stable/20024652>
- Ursula K. Le Guin: “A Non-Euclidean View of California as a Cold Place to Be” (1982) <https://www.fifthestate.org/archive/382-spring-2010/non-euclidean-view-california-cold-place-1982/>
- <https://UnCiv.nl>

To meet the 1.5°C Paris Agreement goals, humanity must cut greenhouse gas emissions by 7.6% every year for a decade

Source: UNFCCC



And if we make it, which is doubtful, it will be because we unmade ourselves as consumers, and remade ourselves as humans, free to decide our own relationships with the world around us, refusing extraction, domination and exploitation.

*So close, so possible, yet so very far.*

Julia Steinberger  
LEAD IPCC AUTHOR  
@JKSteinberger

