

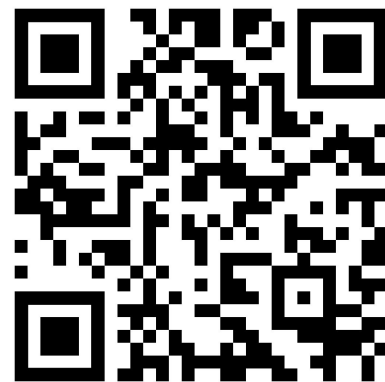
- Reclaimed Systems -

— Planet — Technology — People —

Ecologies of Technology

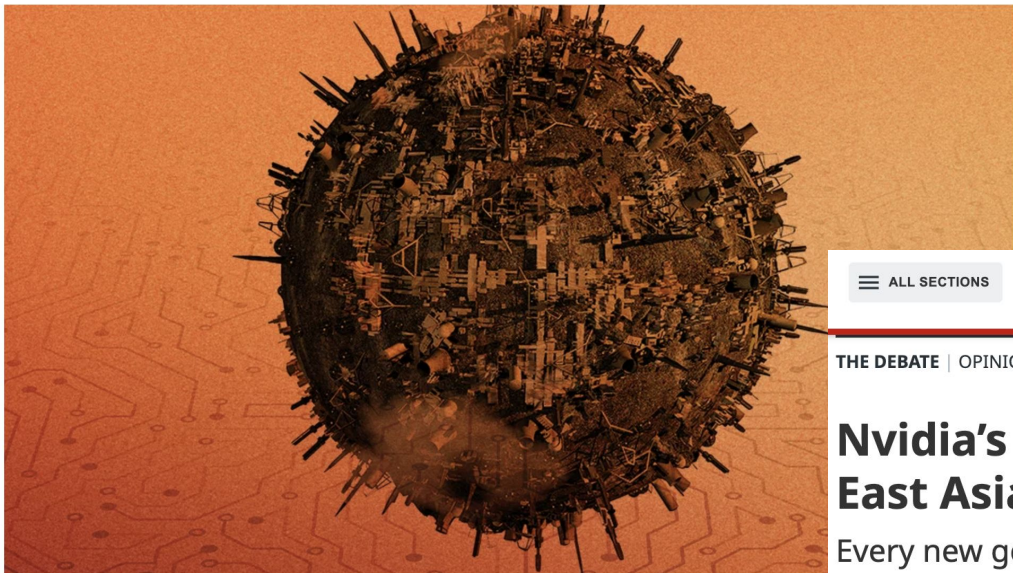
<https://reclaimed.systems>

reclaimedsystems.substack.com



The Ecological Cost of AI Is Much Higher Than You Think

As the microchips behind artificial intelligence grow in complexity, each generation requires more energy, minerals and water than the last, driving a ruinous cycle with no end in sight.

[ALL SECTIONS](#)[SEARCH](#)

THE | DIPLOMAT
READ THE DIPLOMAT, KNOW THE ASIA-PACIFIC

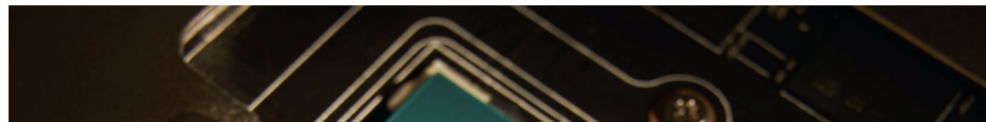
THE DEBATE | OPINION

Nvidia's Silent AI Colonialism Is Trapping East Asia in a Fossil-Fueled Hell

Every new generation of microchips uses more energy, water, and toxic chemicals than the last – with Taiwan and South Korea bearing over 90 percent of the burden.

By **Greenpeace East Asia** and **Alistair Alexander**

July 02, 2026







“We were given a land to live on and we use it wisely. We go harvesting wildlife - moose, beaver and waterfowl, ducks and geese and fish, sturgeon. So that's our supply chain - food, wild berries we harvest. Our rivers are really connected to us because we travel on them. We drink the water from the lake.”

Chief Quisess, Neskantaga





“We are a fly-in community , we live in poverty, we have a drug pandemic, we have a 30 –year-old boil advisory on our water.

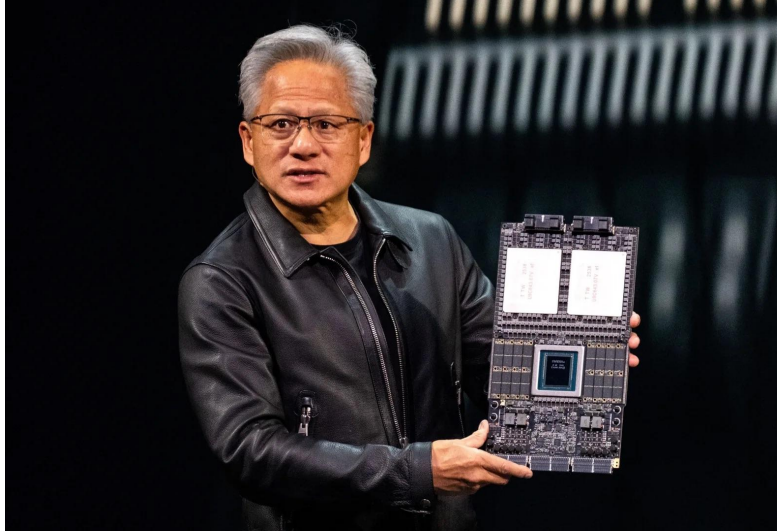
Chief Quisess, Neskantaga



EP37



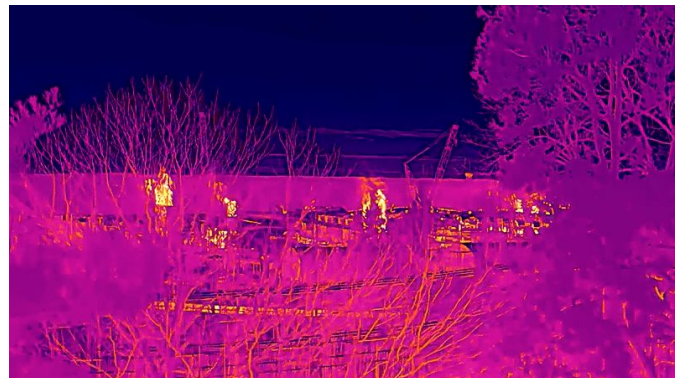
Nvidia worth \$4.82tn



In 2025 Nvidia's carbon emissions
increased by 53% - 11m tonnes
300% increase since 2022



AI Data centres



1 average prompt = .3 kwh, 519ml water -

1 sora video = 1kwh

US expecting 45GW of AI data centres by 2030

Only 19GW of power is being added to US grid

OpenAI is expecting to add 250GW by 2033





AI GPU Chips



“When a local group told me 100,000 metric tons of water a day, I told them it cannot be true, because the number is huge,” Po-Jen Hsu, deputy CEO of the Environmental Rights Foundation

TSMC planning 10 more advanced fabs in Taiwan

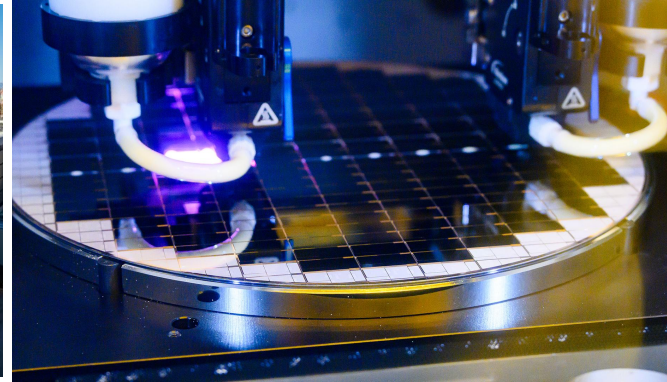
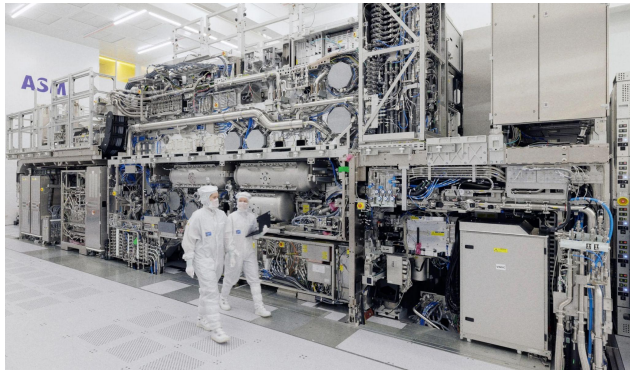


TSMC used 100 million tonnes of water in 2023

12% of Taiwan's power in 2025

Taico building 18 new gas plants - 25% of Taiwan's power - mostly for TSMC

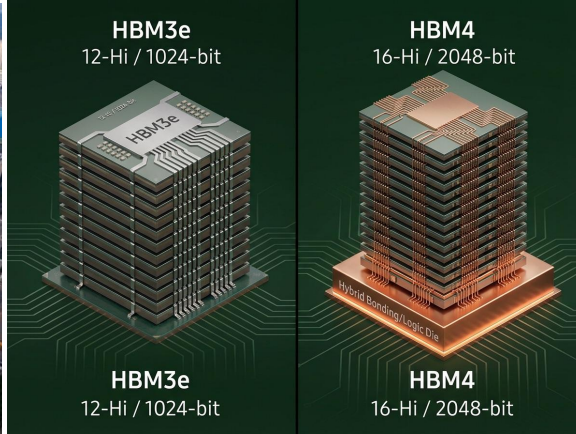
TSMC



Chips need many other minerals: rare earths,
helium, nickel
Gasses: sulphur hexafluoride - (23k x CO2e)

There's more than a thousand applications for
PFAS in the semiconductor supply chain,"
"They've used the importance of
semiconductors as an excuse to push back
against regulations,"
Judith Barrish - Chips Communities United

Memory and packaging



1 stacked HBM3E for 48gb c. 80kg - GB300 has 6 (288gb) - 480kg co2

VR300 has 476gb - in HBM4

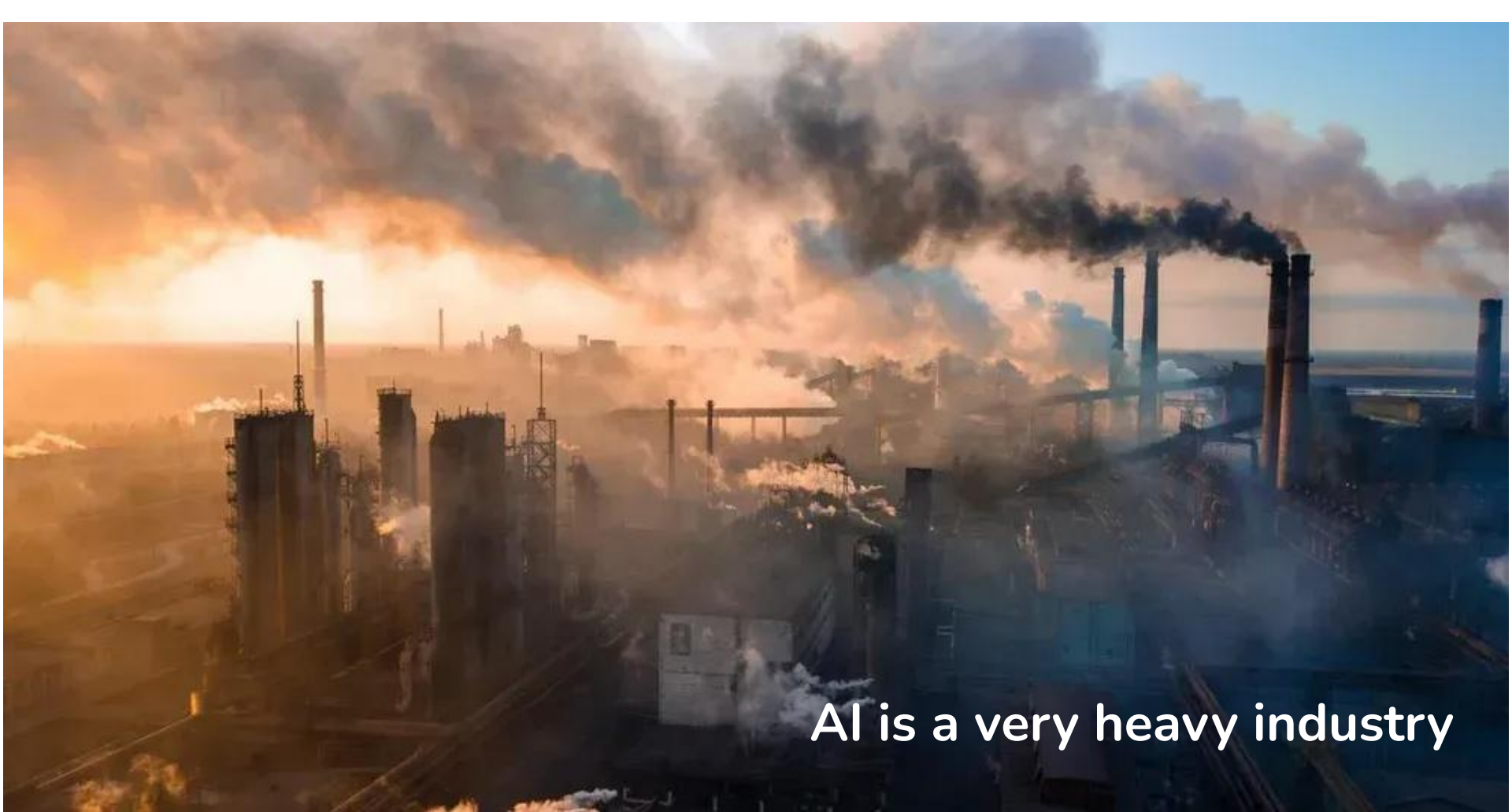
“Transmission towers are [being] built to bring in power from other regions, sparking strong resistance from residents. There is even talk of introducing small nuclear reactors,” LimJongren, SHARPS

Yangin Mega-cluster



16GW of power,
6th of Sth Korea total
Half of Seoul's water

“The structural denial of risks is a defining feature of the semiconductor industry as a strategic high-tech industry, with “catastrophic consequences for both workers and surrounding communities.”

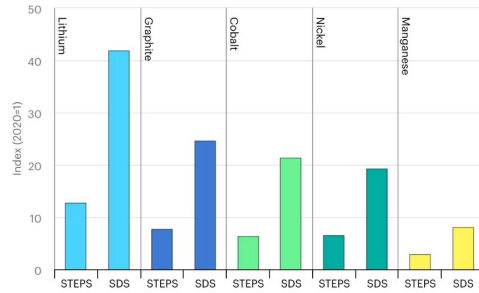


AI is a very heavy industry

AI Critical Minerals

Growth in demand for selected battery-related minerals from clean energy technologies in 2040 relative to 2020 levels by scenario

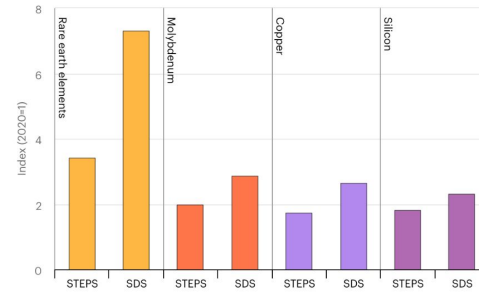
Open



IEA, Licence: CC BY 4.0

Growth in demand for selected renewables and network related minerals from clean energy technologies in 2040 relative to 2020 levels

Open



IEA, Licence: CC BY 4.0

AI infrastructures require a vast range of minerals and rare earths. Alongside “green” technologies, AI and network infrastructure will drive a 400% increase in minerals and mining in the next decade (IEA)

<https://www.iea.org/topics/critical-minerals>

54 % of those minerals are in indigenous territories



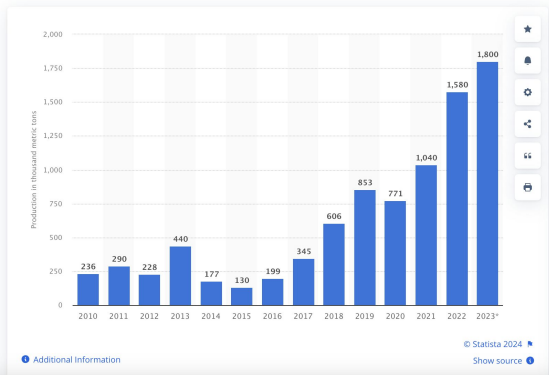
And 88% a lot of the world's bio-diversity



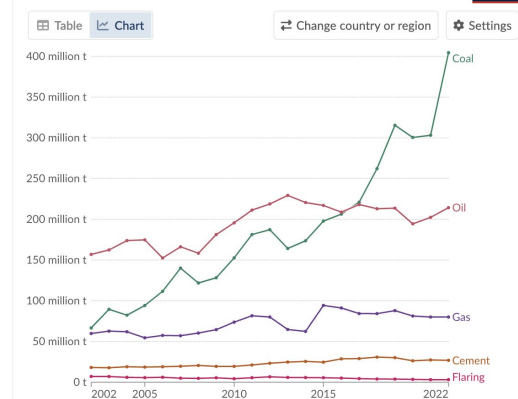
World's largest nickel exporter

Mine production of nickel in Indonesia from 2010 to 2023

(in 1,000 metric tons)



CO₂ emissions by fuel or industry, Indonesia



Grasberg mine

711,000 tonnes of copper
55.9 tonnes of gold
196 tonnes of silver

240,000 tonnes of ore per day
700,000 tonnes of tailings per day
2.5 mn tonnes of carbon emissions per year

Raki Ap

“More than 500,000 indigenous deaths after 60 years of occupation of less than 2.1 million. That's why we're talking about slow motion genocide.

The numbers aren't light, so time is our biggest threat. If we won't change the situation, the numbers are clear.

We will be extinct”



Rappersfjord, Norway



Sami salmon and reindeer grounds, rich copper deposits

Greenland



One of world's largest rare earths deposits

Lithium mining, Chile

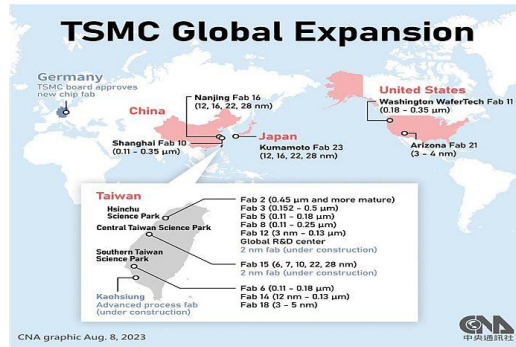




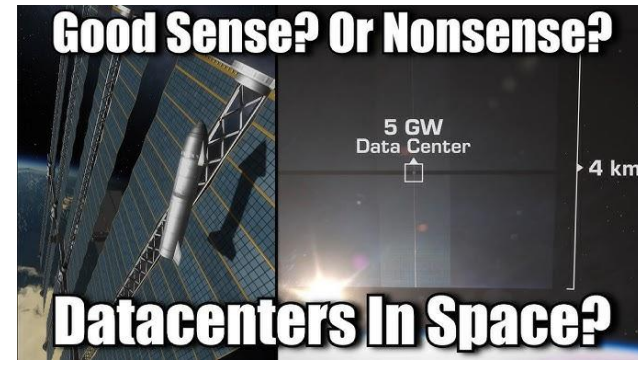
“The Government wants to push the Ring of Fire to get resources from our backyard, but they don't want to help us fix our water treatment plant. “

Chief Quisess, Neskantaga





Will there ever be enough of everything for AI?



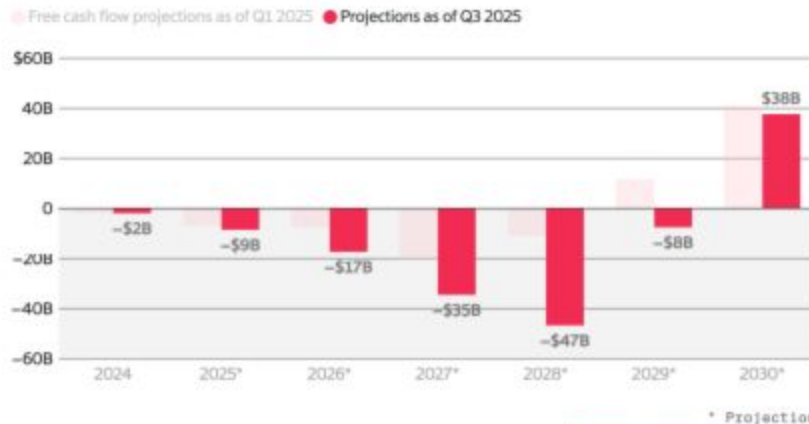
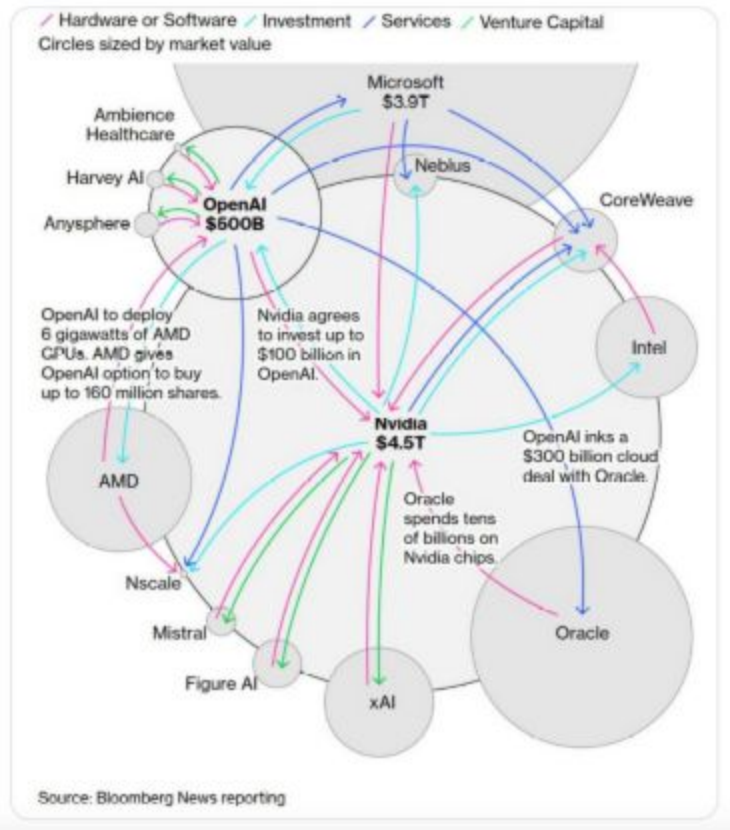


Grant Slatton

@GrantSlatton

The AI circular Economy

the technocapital hyperobject at the end of time begins to pull itself together



OpenAI's burn rate...

- Jan 2025 – 36bn
- Sep 2025 – \$125bn
- Jan 2026 – \$220bn
- July 2026 - \$330bn



Is this a bubble?



Big Tech's AI Spending to Reach \$725 Billion in 2026

Annual capital expenditure of Meta, Microsoft, Alphabet and Amazon



* Upper limit of latest company projection as of Apr. 29, 2025
** Calendar year totals based on quarterly figures. 2026 outlooks as given on Apr. 29, 2025
Source: Company reports



statista



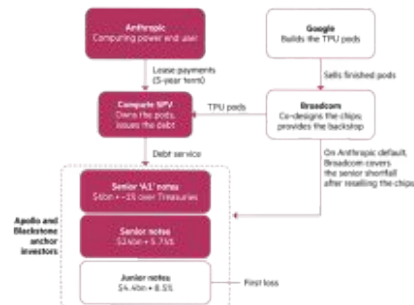
3 big Hyperscalers –
Amazon, Google, Microsoft

\$200bn of debt

1.85tn of off
balance sheet debt

How Broadcom got \$35bn of chips leased to Anthropic

Private credit vehicle buys 10W of TPU pods



\$13 trillion of AI debt by 2030

AI is a massively fragile system



The LNG production facility in Qatar's Ras Laffan Industrial City. ©picture alliance/Getty Images

There is no such thing as a green internet



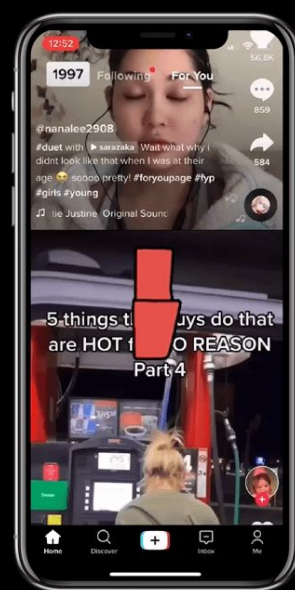
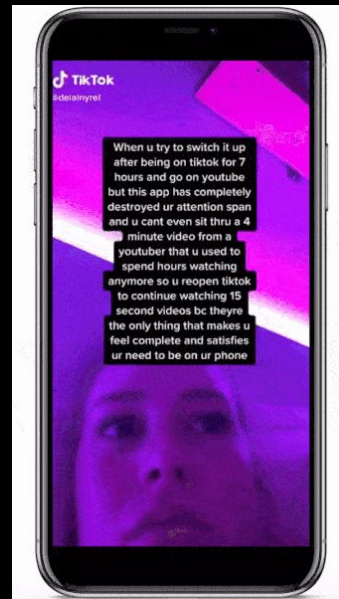
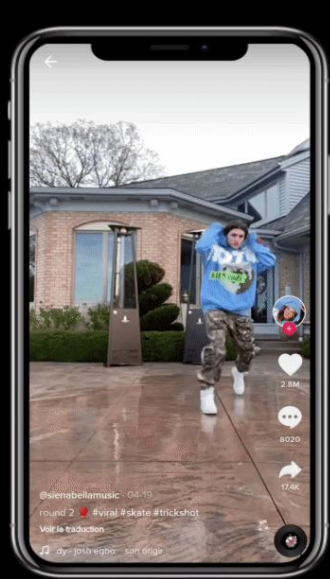
...nor sustainable AI



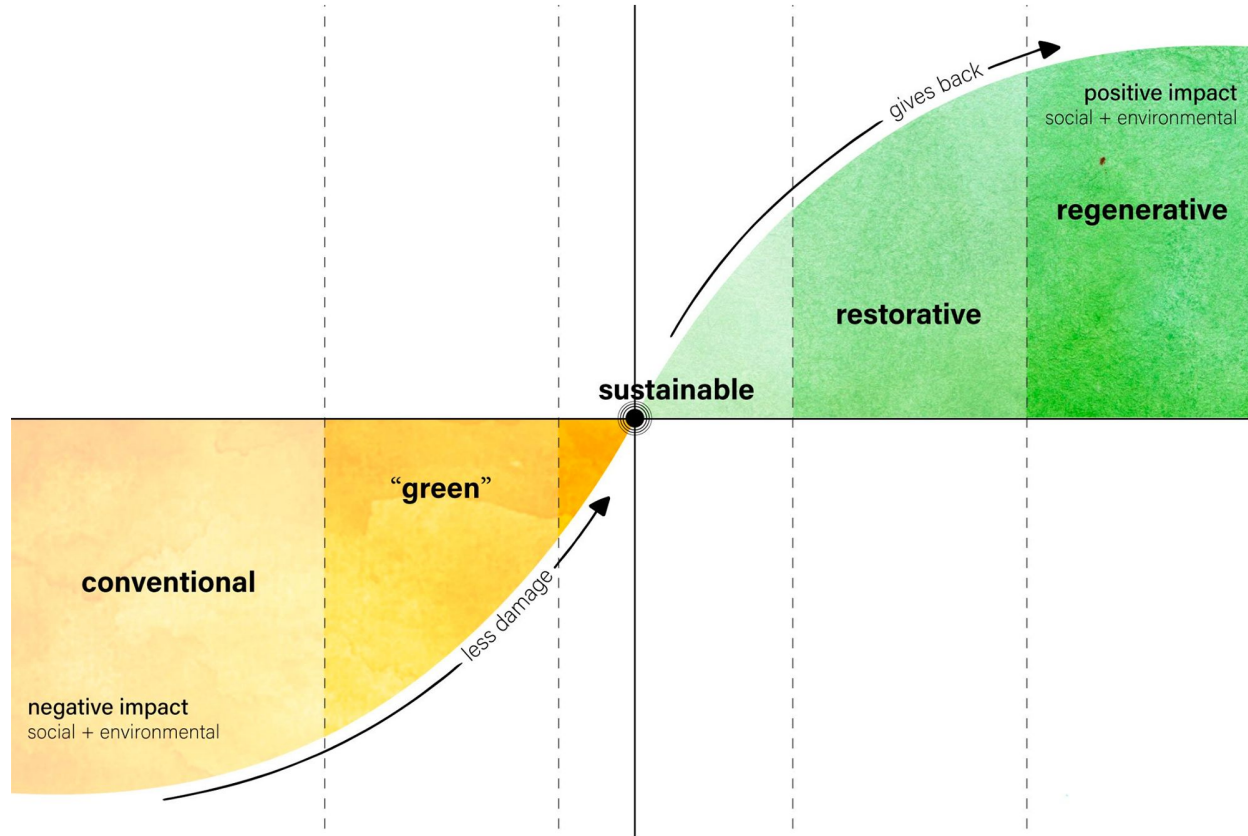
We don't just need different technology....



....we need *less* technology....



And what would we be missing?



Towards Regenerative Futures (Livework) - Adapted from Mang & Reed (2012)

Towards Regenerative Futures (Livework) - Adapted from Mang & Reed (2012)



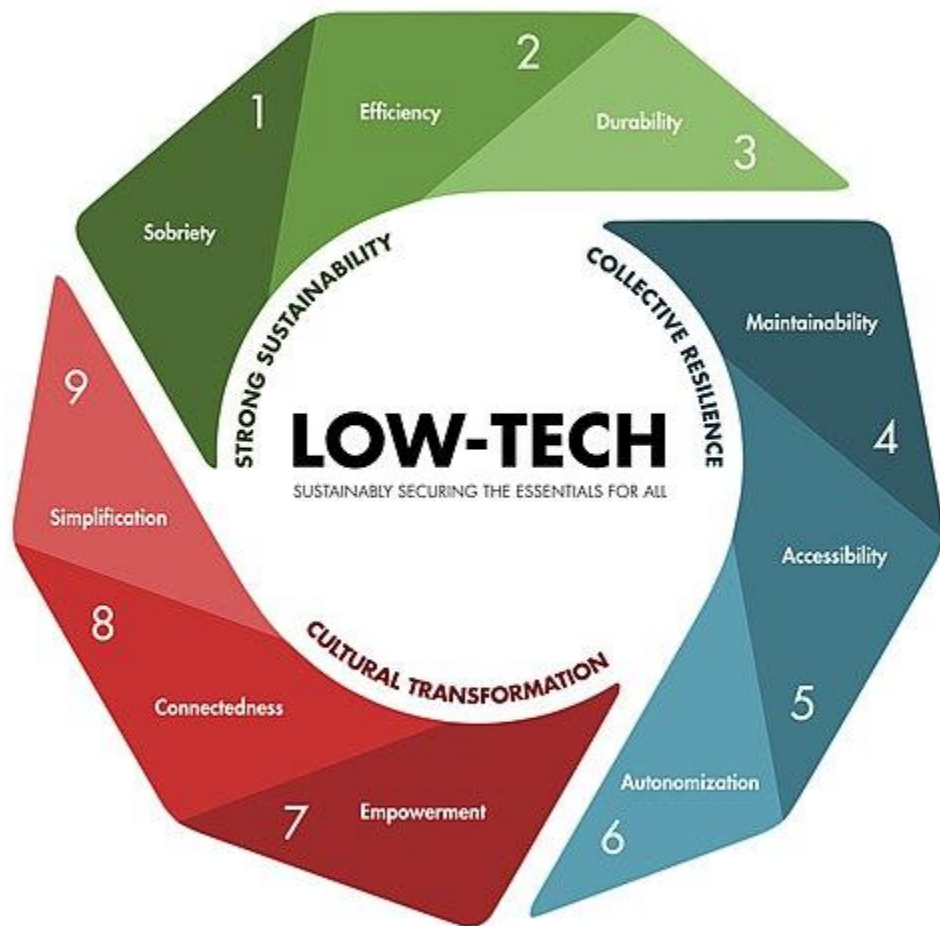
Care for life; Care for the chips



- **accessible:** well documented and adaptable to an individual's needs.
- **compatible:** works on a variety of architectures.
- **efficient:** uses as little resources (power, memory, etc) as possible ([minimization](#)).
- **flexible:** modular, portable, adapts to various use-cases.
- **resilient:** repairable, [offline-first](#), low-maintenance, designed for disassembly, [planned for longevity](#), [maximized lifespan](#), descent-friendly or [designed for descent](#)

- Hope for the Best, Prepare for the Worst
- Care for All Hardware — Especially the Chips
- Observe First
- Not Doing
- Expose the Seams
- Consider Carefully the Interaction Between Simplicity, Complexity and Scale
- Keep It Flexible
- Build on Solid Ground
- (Almost) Everything has a place
- Integrate Biological and Renewable Resources





THE CRITERIA FOR ANY LOW-TECH INNOVATION APPROACH:

STRONG SUSTAINABILITY

1 **Sobriety**

Refocuses on the essentials and tends toward the technological optimum: lowest technological intensity and greatest simplicity ensuring needs be met with a high level of reliability

2 **Efficiency**

Minimizes the consumption of energy and resources, from extraction of raw materials through production, distribution and use to end of life

3 **Durability**

Presents maximum technical, functional, ecological as well as human viability in the short, medium and long term

COLLECTIVE RESILIENCE

4 **Maintainability**

Can be maintained and repaired by users themselves so far as possible, using standard parts and materials

5 **Accessibility**

Offers maximum ease of use

6 **Autonomization**

Is made from resources that are exploited and transformed as locally as possible

CULTURAL TRANSFORMATION

7 **Empowerment**

Facilitates appropriation by the greatest number, gives power to citizens and communities

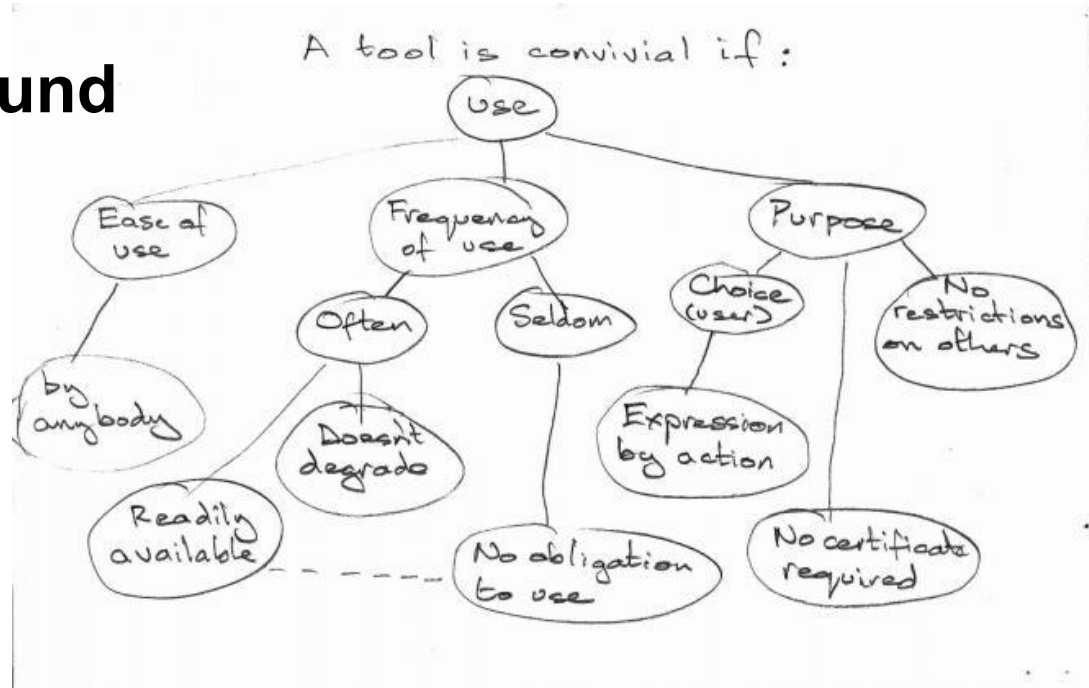
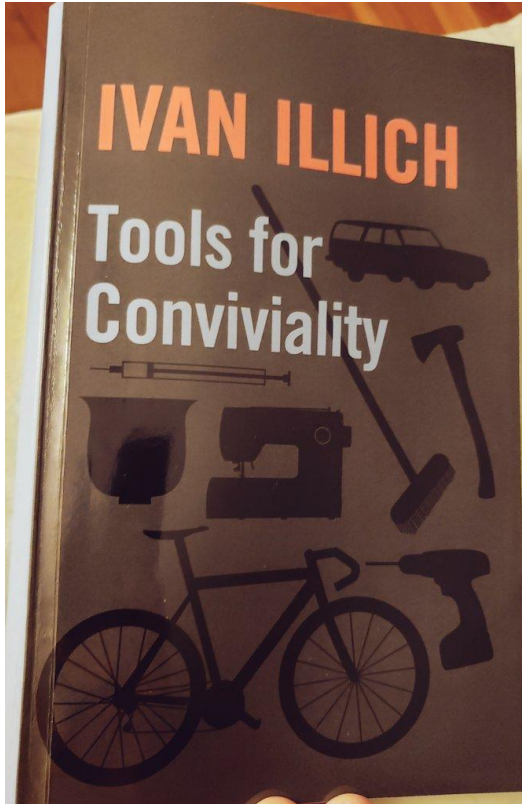
8 **Connectedness**

Promotes the sharing of knowledge and know-how, cooperation, solidarity, social cohesion and links between communities

9 **Simplification**

Decomplexifies society at the socio-economic and organizational levels based on reflection about needs and vulnerabilities

Build on solid ground

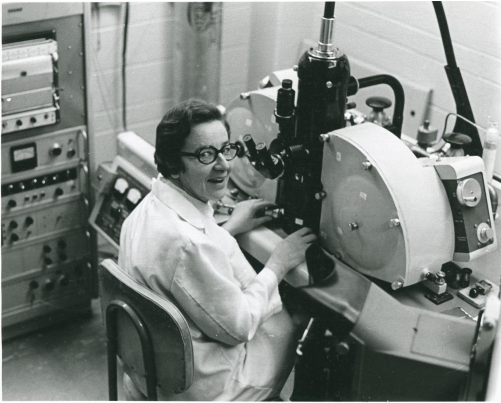


Convivial tools are those which give each person who uses them the greatest opportunity to enrich the environment with the fruits of his or her vision.

Industrial tools deny this possibility to those who use them and they allow their designers to determine the meaning and expectations of others. Most tools today cannot be used in a convivial fashion.

Ursula Franklin

Holistic v Prescriptive Technology



University of Toronto Archives. 2018-6-2MS

We must ask of technology

...whether it



1. Promotes justice
2. Restores reciprocity
3. Confers divisible or indivisible benefits
4. Favours people over machines
5. Whether its strategy maximises gains or minimises disaster
6. Whether conservation is favoured over waste
7. Whether the reversible is favoured over the irreversible

— URSULA FRANKLIN



Prescriptive technologies

While we should not forget that these prescriptive technologies are often exceedingly effective and efficient, they come with an enormous social mortgage. The mortgage means that we live in a culture of compliance, that we are ever more conditioned to accept orthodoxy as normal, and to accept that there is only one way of doing it.”

Holistic technologies

“Any tasks that require caring, whether for people or nature, and any tasks that require immediate feedback and adjustment, are best done holistically. Such tasks cannot be planned, coordinated, and controlled the way prescriptive tasks must be.”

Thankyou!



Substack



<https://reclaimed.systems>
reclaimedsystems.substack.com
@alicma_reclaimed@mastodon.world



Re_connect

When you connect online are you really connecting?

Or are you actually disconnecting from the people around you?

When we connect with someone online in some ways we are only connecting to our device's screen - we are isolating ourselves, in some ways we are actually more alone than ever.

That suits technology platforms; we're all individuals, detached consumers of their products and services, all our connections are facilitated by their networks.

But does it really suit us?

We all know how it feels to be sitting with someone who is far more interested in their mobile phone than in us.

All too often, that person is us.

Of course the internet allows us to connect across continents - and communities - with people we could never reach before. That can bring us closer together; it can broaden our horizons.

But it can also distract us from people nearby; people who really matter to us.

And however much digital networks might want us to use their channels, or the "Metaverse", there will never be a replacement for sharing space, time and air with people in real physical life.

allstair.alexander
https://reclaimed.systems

Continued ➡



← previous

We all need presence, touch, eye contact, and warmth from humans and all other life - that's really how we know we're alive.

But when so much of your life is online, how do you make time for your offline life?

That can be almost impossible if you try on your own.

But it's much easier if you do it with the people you really like, love and trust. And you may well find they love the idea too.

Many groups of friends, or networks are making a conscious choice to move their conversation off digital networks as much as possible.

Sometimes they keep online chats to a minimum to arrange times to meet. Sometimes they find other ways to communicate - such as calling, or just setting up regular meeting points.

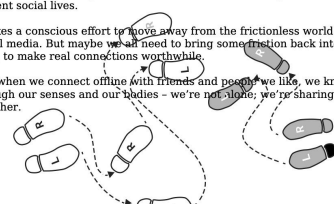
A network of "Offline" clubs sprung up recently in the Netherlands, and is now spreading across Europe.

Perhaps you can arrange an entirely offline gathering - where everyone leaves their phones at home.

By meeting in real life, and putting phones away somewhere safe, many people are finding they have far more relaxed, more lively, and more present social lives.

It takes a conscious effort to move away from the frictionless world of social media. But maybe we all need to bring some friction back into our lives, to make real connections worthwhile.

And when we connect offline with friends and people we like, we know - through our senses and our bodies - we're not alone; we're sharing space together.



Re_make

Instructions for intentional analogue practice

Think of a craft or hobby that you do already.

Or maybe a craft you have always wanted to do.

It must be creative, and essentially an analogue activity; one that has been practised for hundreds or thousands of years is probably suitable - for example gardening, cooking or woodwork.

Critically Important: It must be an activity that *makes you feel good.*

Think about how you can approach this activity without requiring the use of digital devices or networks.

Maybe instead of watching YouTube you get a book, which you can buy in a book shop - or borrow off a friend. Libraries are always excellent places to borrow books and find out about new things.

Perhaps you could ask someone in the bookshop, or library, or a friend for a recommendation.

Do you need tools, materials and other things for this activity?

They should all be physical things - without the need of digital connection.

If you don't have the things you need, maybe you can make them, borrow them, or if you need to, buy them. Second hand if possible; for this practice, things with their own stories seem to work best.

Think about how you want to do this practice; are their times and places where your practice will take place?

Think how you can make those spaces and times digital free.

What can you do with your phone during those times? Can you place it somewhere where it will be off and out of your way? A container somewhere would be ideal.

Can you ensure that you will not be disturbed by it? And can you ensure that you will not be concerned about that?

Make any arrangements you need to do to ensure no one will find your digital silence for a short while surprising/annoying.

Make sure to make those arrangements with consideration, care, and some humour.

What about your laptop? Can you put that somewhere safe? Any other devices?

Think about how long you take - it can be as short or as long as you like.

Or it can be an undetermined time.

But for however long you decide to do this practice, make sure you have time for it. And some time to relax and reflect after.

Now you can begin.

Perhaps you can start by relaxing, by sitting, reflecting on what you do, and why you want to do this.

Consider your project and what it means to you.

Is it something new or something you know already?

Both are equally rewarding, but in different ways.

Think of all the steps you need to take.

And how you will take them.

When you have finished what you set out to do, you can sit and reflect.

For some time. As long as it takes.

How do you feel? Was it how you expected?

Or did it take you somewhere else?

When you are ready,

If you are ready,

You can think about returning to the rest of your life.

If you want to, that is.

You can find your phone.

You can "re-connect".

You can think about the next time you'll be able to do your practice some more.

