

DR CRAIG DALZELL

Data Centres

It's Fracking all over again

COMMON WEAL



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Part One

Why do they want AI?

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A CAPITALIST

- A Capitalist is a person who has the money (capital) to buy a tool, but does not have the skill to use it.
- A tool without a skilled user is a sculpture. It cannot produce useful work.
- This means that a Capitalist needs help to make their tool useful.

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Credit: Gage Skidmore CC-BY-SA

A WORKER

- A Worker is a person who has skill, but may not have the money (capital) to be able to buy tools.
- Therefore a worker may have rent their skill and their spare time to a Capitalist.
- A worker who cannot work may face more immediate personal consequences than a Capitalist who cannot hire workers.



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CAPITALISM

- Capitalism is the act of joined skilled workers to the means of production to create useful work.
- The value produced by this work can be split between the Capitalist who owns the tool and the worker who can use the tool.
- There is, of course, a word for a worker who owns both skills and their tools – perhaps a collective of workers who own tools communally – Communist.
- Marx wisely pointed out that the relationship between Capitalist and Worker is rarely fair as the Capitalist already has enough money to ensure that the worker is in a much weaker position in a dispute. At least individually.
- Labour disputes are inconvenient to the Capitalist. Wouldn't it be better if the workers just did what the Capitalist wanted?

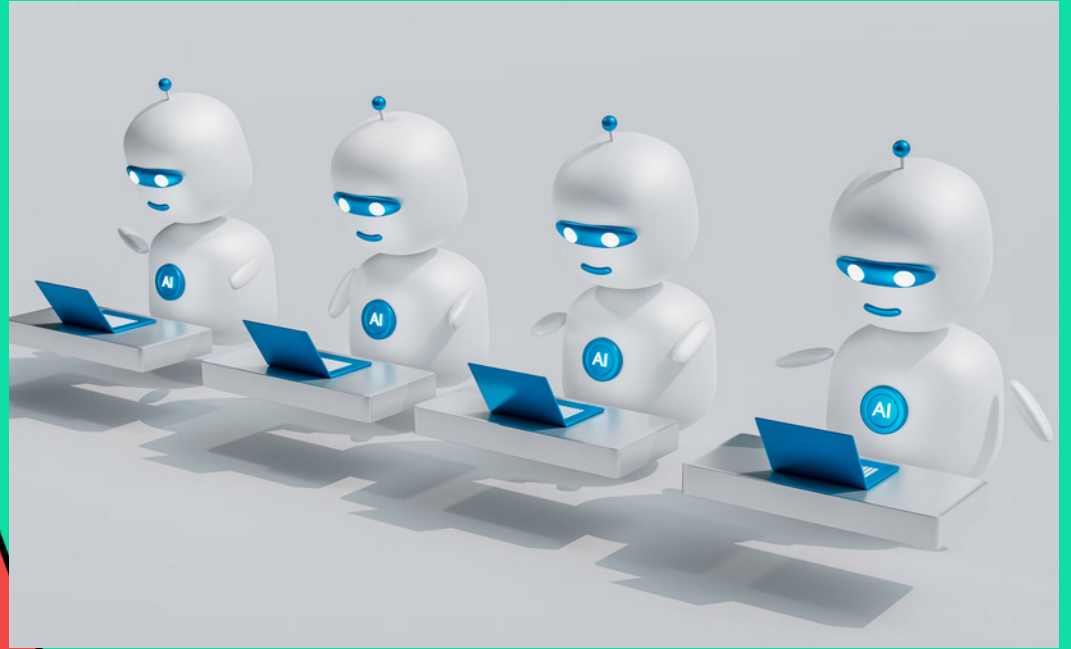


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SO WHY AI?

- Cory Doctorow points out that AI is an expensive tool that doesn't require a skilled user.
- In other words, it is a means for a Capitalist to gain access to the skills they don't have while denying workers the jobs the Capitalist doesn't want to pay them for.
- These skills were often gained by stealing them from workers without permission or compensation.
- And we're already seeing entry-level jobs disappear which begs the question of how do new workers gain the skills to get to the mid-level jobs the AI can't do?



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Part Two

What are data centres?

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WHAT ARE DATA CENTRES?

- We need to understand that there are different kinds of data centres.
- Politicians and lobbyists have been conflating them – perhaps deliberately.
- Three very broad types
 - Data Storage Centres
 - Data Servers
 - AI Hyperscalers



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DATA STORAGE

- Think about the kind of data we need to store securely but only access occasionally.
- NHS Patient records, National archives.
- Often stored “in house”, but too often stored “in the cloud” which might mean not even in Scotland.
- In any case, may be high security but fairly low demand.
- We’ll come back to digital sovereignty later.

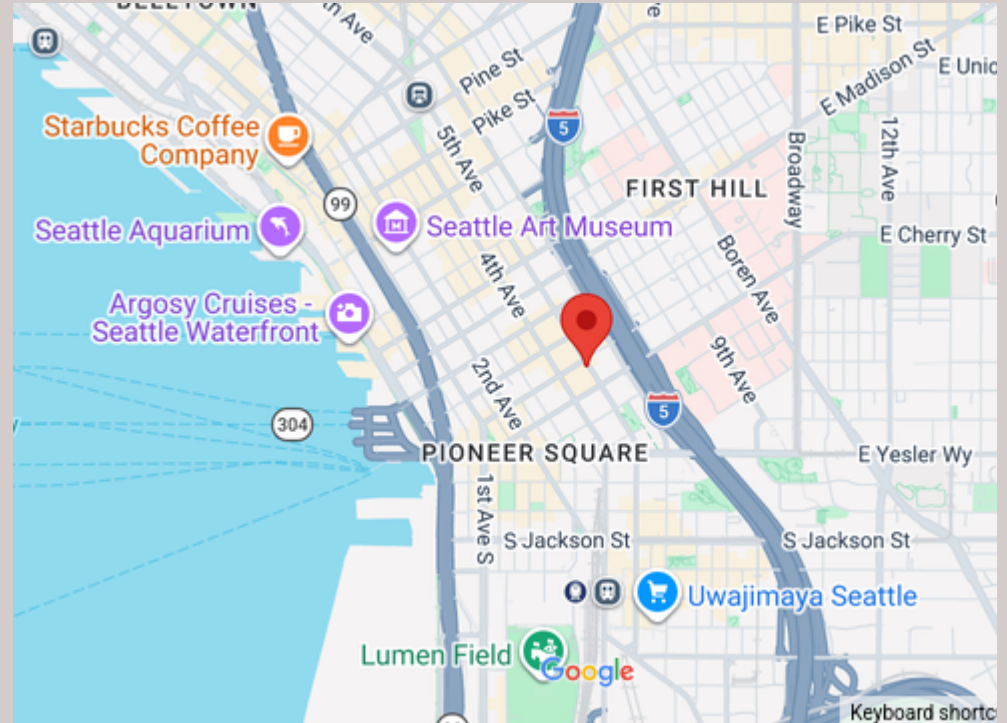
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DATA SERVERS

- Data that may be accessed frequently, from anywhere – often public-facing.
- Government websites (or any others).
- The Scottish Government's website gov.scot is stored on a server owned by Amazon – That server is physically located in Seattle, USA.
- This, too, could be construed as a security risk.
- (Common Weal's website is physically located in Singapore).

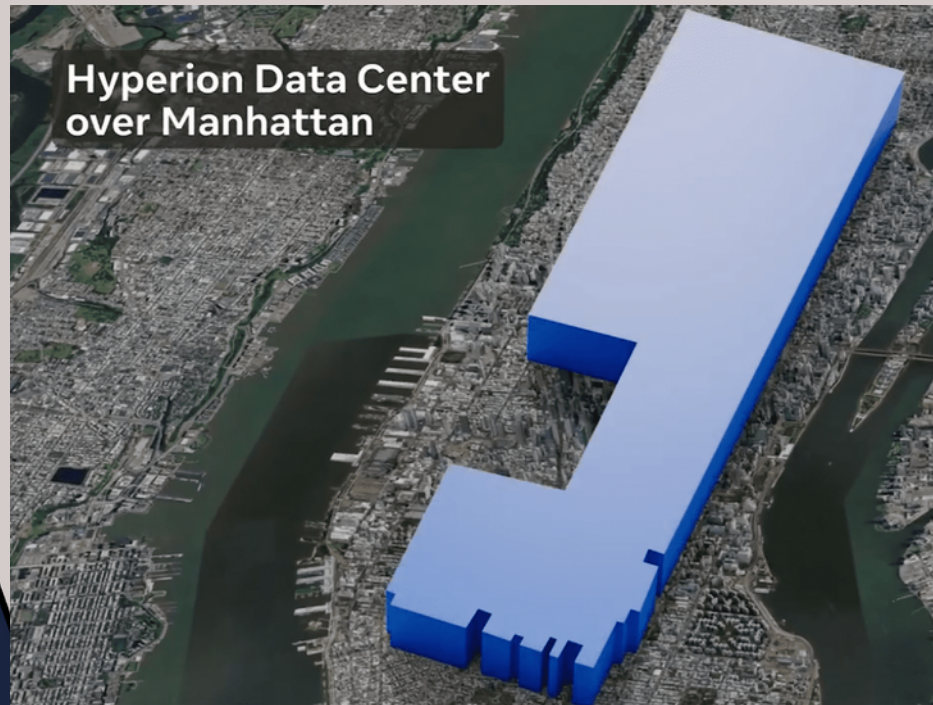
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AI HYPERSCALERS

- These are the things currently in the news.
- Massive (as in “size of Manhattan” massive in some instances) and extremely power hungry
- The amount currently applying for planning permission in Scotland would more than double current electricity use.
- It’s an unprecedented scale of digital industrialisation
- And it’s a total wild-west when it comes to planning

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Part Three

Why do we need AI?

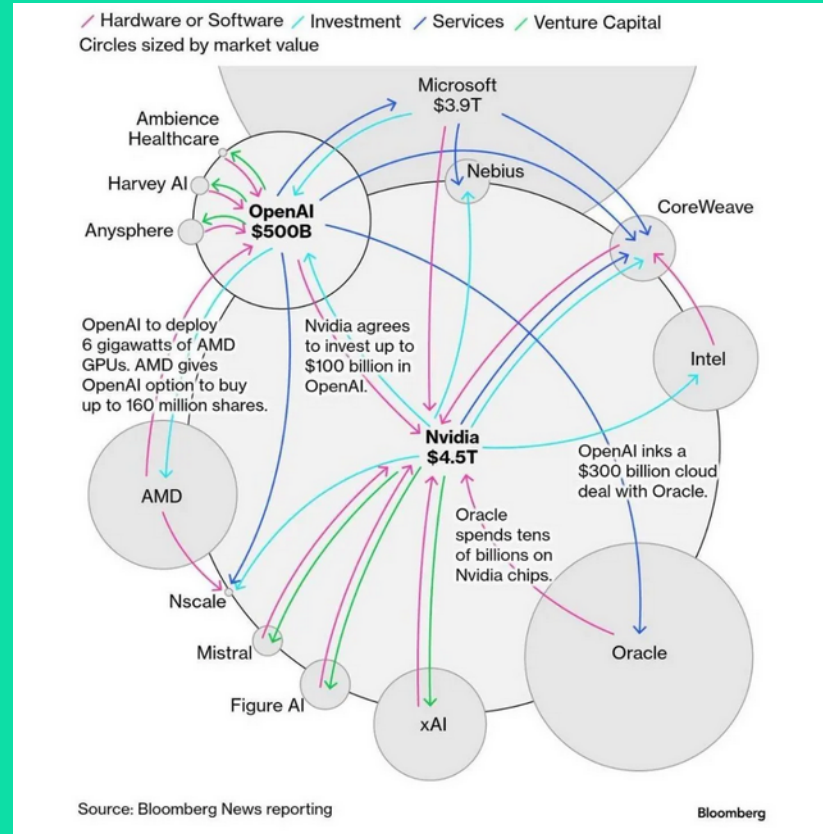
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THE AI BUBBLE

- The AI Bubble is the largest tech bubble in history – already far larger than the dot.com bubble of the 2000s.
- It's having major impacts on everything else that relies on computers – chip manufacturers are all in on AI
- The companies are heavily cross-invested too.
- It is heavily suspected that the USA is experiencing a recession right now, except for AI boosting their numbers.
- And they still want more.

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WHY SO MANY DATA CENTRES

- The term is “compute”. AIs have been getting more capable in terms of how much one chip’s worth can perform, but really the gains have been in brute force.

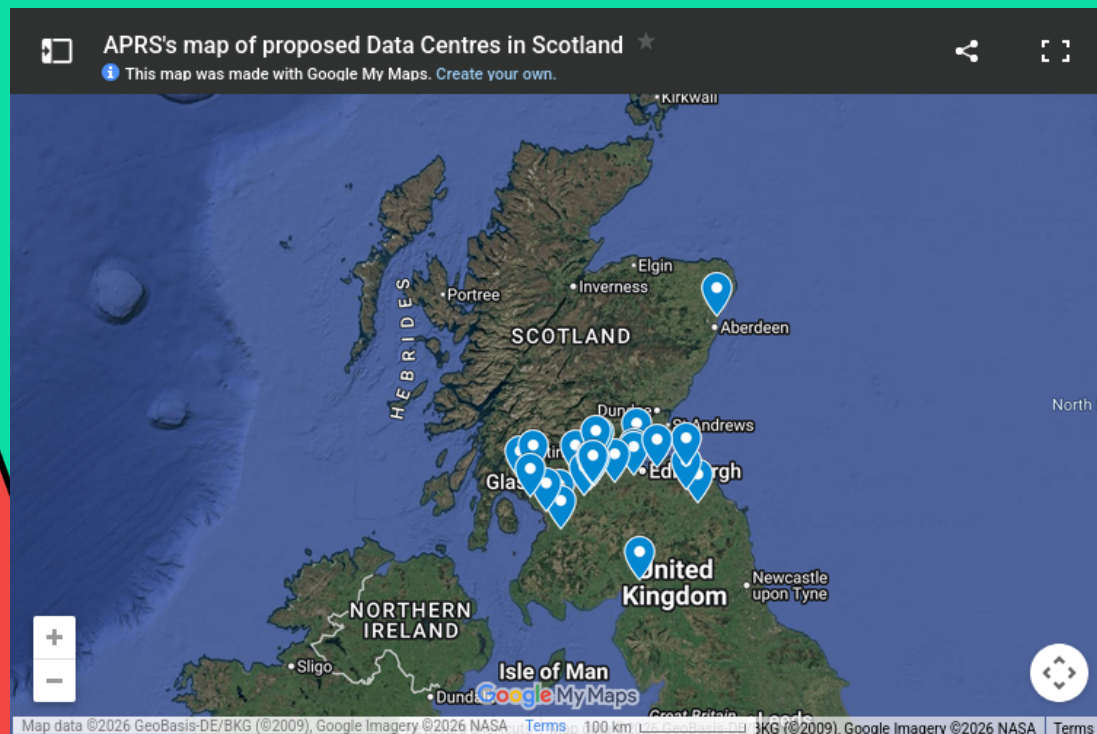
- Simply: More compute equals more AI.

- So if they want to 10x their AI, they need 10x more data centres.

- Worse though, things are moving too fast. GPUs are being bought and are sitting in warehouses. They will be obsolete before the centre they are designed for it built. They CANNOT be used elsewhere like in home PCs – too specialised.

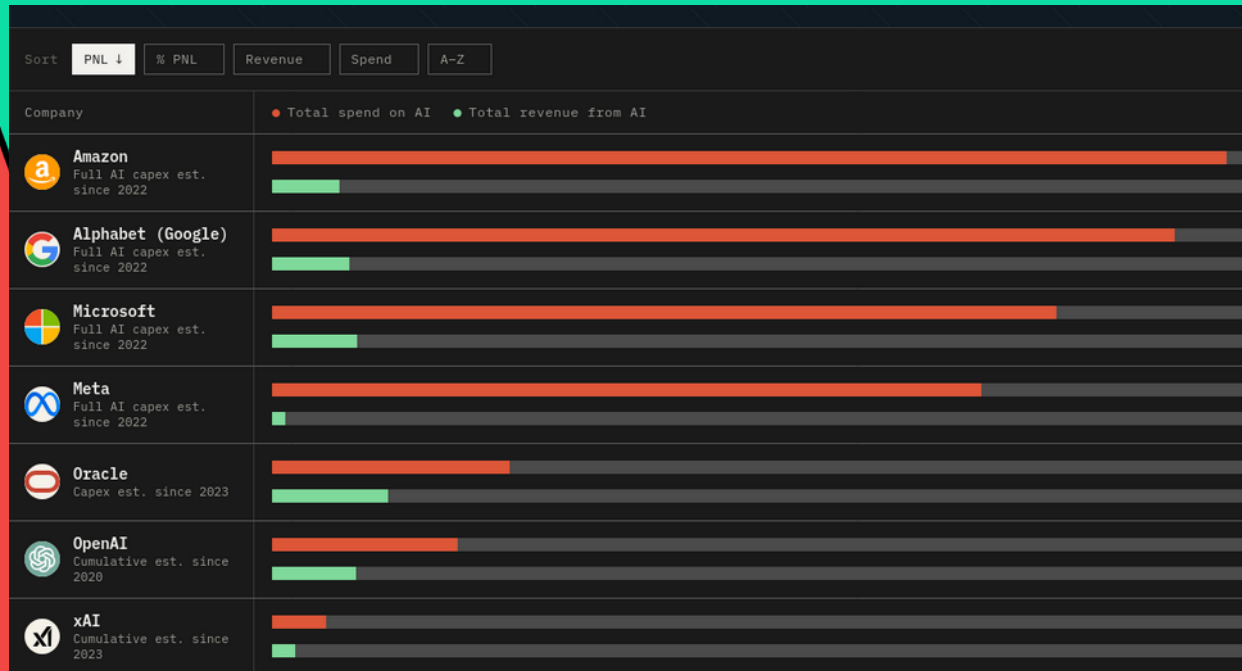
- The dot.com bubble left us legacies like trunks of optical fibre that could be repurposed for high speed domestic internet. It’s not clear if the ruins of the AI bubble will leave us anything useful.

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WHAT WILL AI BE USEFUL FOR?

- This is the multi-trillion dollar question.
- Right now, economic uses are almost non-existent. AI is everywhere and is cheap or free because companies NEED you to be reliant on it.
- But the debts are mounting and companies need to start making revenue soon.
- Doctorow likens the current model to “selling a \$100 bill for \$1”
- But when they try to up the price to even \$5, customers flee. AI is just not useful enough to pay \$5 for \$100 of AI.



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BUT...WHAT WILL IT BE USEFUL FOR?

- It is genuinely upending theoretical maths (But...mostly by doing maths fast, not well. OpenAI's proof of the Navier-Stokes Problem cost \$12mn to solve a problem with a \$1mn prize attached. It probably did it by plagiarizing existing techniques).
- It might have applications in the military where cost is less of a concern (but it has been implicated in contributing to US war crimes in Iran)
- It might change how programmers write code...maybe... (or, at least, speeding up writing existing code – it has yet to demonstrate novel techniques here too)
- And it's already changing low margin image generation (which is why all of your local businesses now have the exact same AI slop template leaflets). Useful to small businesses? Maybe. Profitably for AI companies? Probably not.

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BRING A FRIEND TO RUGBY

NEVER PLAYED BEFORE AND DON'T WANT TO COME ALONE? **BRING A FRIEND**

NOT PLAYED FOR YEARS? **COME ALONG AND BRING A FRIEND**

EXISTING PLAYERS? **BRING A FRIEND**

IF YOU'RE MALE 16+ COME ALONG AND BRING A FRIEND

TUESDAY 29TH SEPTEMBER AND THURSDAY 1ST OCTOBER 7-9PM

AFTER RUGBY FREE BEER OR SOFT DRINK FOR BRINGING A FRIEND AND NEW PLAYERS

Volunteers REQUIRED!

Do you have a spare couple of hours on the 2nd Monday of each month between 11.30am - 2.30pm?

Friendship Social Tea Dance is looking for some new volunteers.

Support is required for

Set up **In the kitchen** **Tidy up**

Interested? then message or contact

Together we make a difference

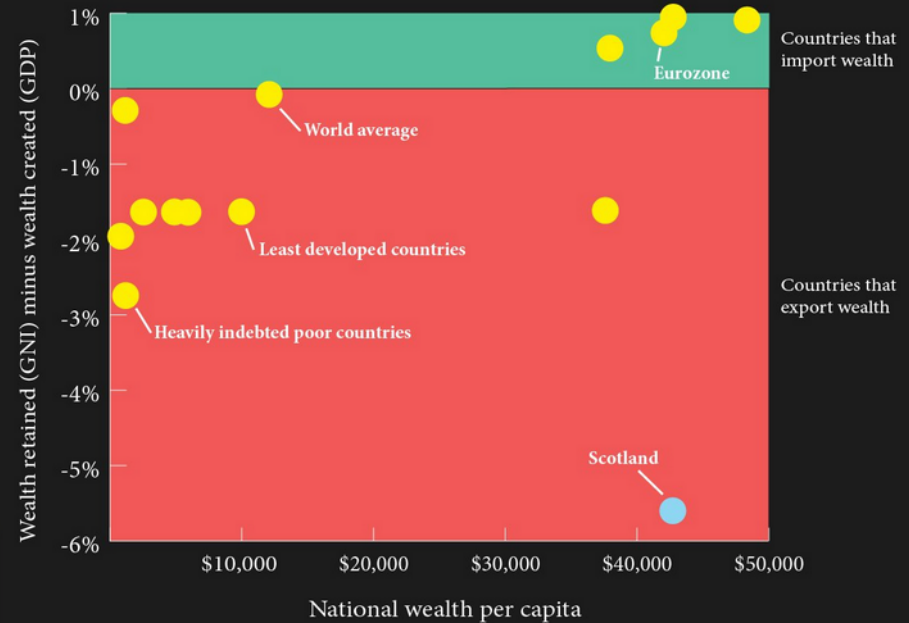
WHO OWNS THE DATA CENTRES?

- This is another big problem for Scotland
- Even if the AIs could be useful and profitable...who owns the Scottish data centres or the AIs contained in them?
- Scotland has a massive enough problem with Foreign ownership of Scottish resources as it is.
- In 2021, almost 6% of our GDP - £10bn - was extracted by companies as profits on "inward investments". More than the average "least developed nation" and more than almost any developed nation that isn't a tax haven.

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WEALTH EXTRACTION FROM WORLD BANK
INCOME REGIONS COMPARED TO SCOTLAND



Source: Scottish Government

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Part Four

What can we do?

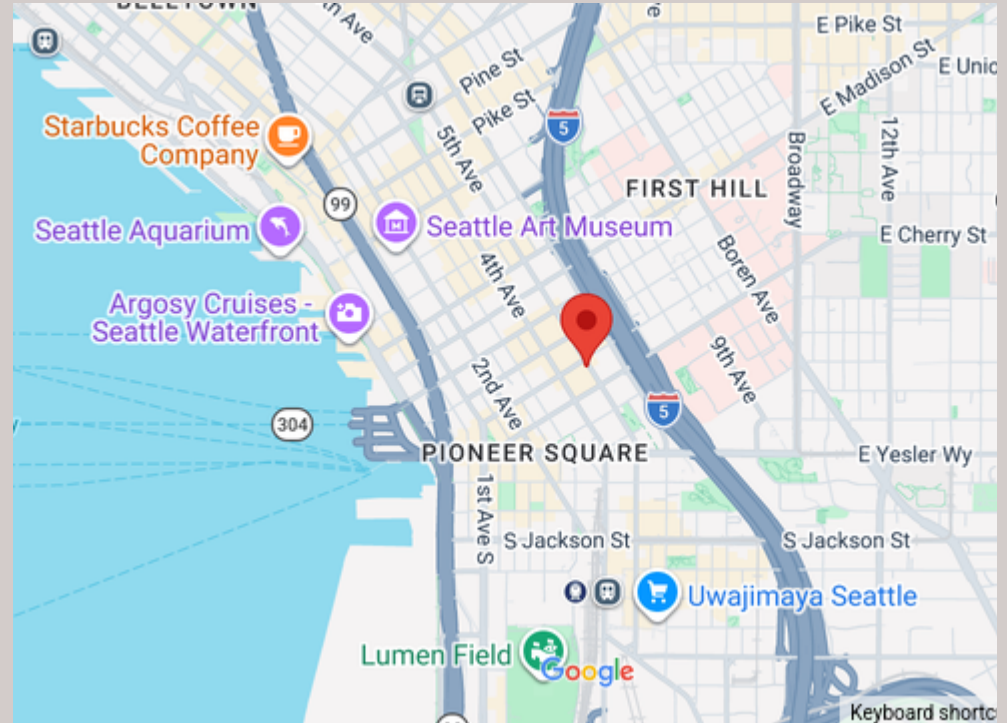
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INSIST ON DIGITAL SOVEREIGNTY

- Major upcoming work from Common Weal – We need to ensure that Scottish data is safe and can't be switched off by mad kings
- Simultaneously, we shouldn't simply play host to the companies that exploit us.
- Be wary of ScotGov's new power to put large centre proposals to Ministers – it has been used to approve foreign-owned renewables over community objections.
- If we must have data centres, insist on proper regulations

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HOW TO REGULATE A DATA CENTRE

- 1) Electricity – Must be self-sufficient on zero-carbon energy or must build out energy assets equal to its demand.
- 2) Heat – Waste heat must be injected into a heat network. If there isn't one, they must build one.
- 3) Water – “Do no harm” – Water can only be taken after residential needs are met and waste must be treated on site and released in a potable state.
- 4) Materials – The centre must abide by Circular Economy principles, from the chips to the foundations to the roof.
- 5) Social Costs – ALL “externalities” from pollution to job displacement must be compensated for (“community benefit” doesn't cut it). AI owners must be personally liable for crimes committed by “rogue AIs”.

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This is how we can regulate data centres in Scotland



In Common looks at how Scotland can regulate the AI data centres we are seeing popping up across the country (Image: PA)



By Common Weal

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with the

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Conclusion

Will Scotland do this?

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WILL SCOTLAND REIN IN AI?

- I have my doubts.
- ScotGov and especially Swinney are all in on “inwards investment” and have been fighting against minimum regulations.
- But this fight has cut through to public consciousness in a way that I haven't seen since the 2016 campaign against Fracking.
- The SNP were all in on fracking then, until they realised that it was going to be very, very bad for their job prospects.
- That flip can happen again. Make sure you put maximum pressure on decision-makers.

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15.04.16

Common Weal Policy

THE ECONOMICS OF SHALE GAS EXTRACTION

SUPPORT COMMON WEAL

**[www.commonweal.scot/
crowdfunder](http://www.commonweal.scot/crowdfunder)**

A Prospectus for a New State

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