Funding the Future

AI is draining our energy

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Artificial intelligence is not virtual, clean, or weightless. It has a rapidly escalating physical cost in electricity, water, and emissions—and ordinary people will pay the price.

Research shows that AI data centres could soon consume electricity on the scale of entire nations. At the same time, AI cooling systems are diverting vast quantities of water in a world already facing severe shortages.

This video asks the questions politicians are refusing to confront: who pays for AI's energy and water use, who profits, and whether unlimited AI growth is compatible with planetary limits, democratic accountability, and basic human needs.

AI may promise growth—but at what cost, and to whom?

https://www.youtube.com/watch?v=NbOmVwT22i8?si=2fTT2ktbAG8vpmmp

This is the audio version:

https://www.podbean.com/player-v2/?i=ta6xb-1a1259d-pb&from=pb6admin&share=1&download=1&rtl=0&fonts=Arial&skin=f6f6f6&font-color=auto&logo_link=episode_page&btn-skin=c73a3a

This is the transcript:

AI is threatening us on many economic fronts. Of course, the AI industry thinks otherwise, but the truth is that there are real challenges that AI is creating, which most of our politicians are totally unable to appraise or even talk about. One of those threats, the one I want to talk about now, is the crisis that it represents for energy and water.

The fact is that artificial intelligence has a physical cost. That cost comes in the form of electricity and water consumption and emissions created, and someone is going to have to pay for these things, and it could be you, and that's why this matters.

AI is sold as virtual, clean and weightless. It's sold as if it is a solution to all our problems, but in reality, it is massively energy-hungry, and the scale of the demand that it is making is exploding very fast.

Researchers at the Massachusetts Institute of Technology in the USA, MIT, one of the best-respected universities in that country, have estimated that the demand for energy from AI will, by 2026, represent the total energy usage of either Japan or Russia. And by 2030, they reckon that at least one 10th of global electricity demand could be for AI data centres. This is fundamentally destabilising of the world energy system and of the demands that we make upon the environment to create them.

As Noman Bashir, who is based at MIT, has concluded, the demand for new data centres cannot be met in a sustainable way, and that matters when the world is already facing a climate crisis. The pace of expansion of AI means that fossil fuels are going to have to fill the gap that it is creating for more electricity, and that directly contradicts every climate target that we've got.

The hyperscale of AI is changing everything. Traditional data centres, the ones that we've been using to date, have been using around 25 megawatts of power. The new hyperscale AI centres are going to 100 megawatts of power, and that by itself is enough to power 100,000 households, but these are now only the modest AI sites. The newest and largest announced data centres might consume enough power to provide electricity for 5 million households. This is not marginal demand; it is system-shifting.

We are facing a complete change altogether in the scale of electricity generation required to keep our economy going if it is to be based upon AI. And there is no way that we know how to deal with this.

US data centres are driving almost half of new demand for power in the USA.

In Japan. It's also more than half of new demand for power.

And in Malaysia, one fifth.

So this is a worldwide issue. It's also true that this is happening right across Europe, we know that. Energy planning is being reshaped around AI, but our national electricity systems can hardly bear the strain.

Nor can prices, because this is going to result in rationing, and rising demand is inevitably going to push up electricity prices. That's the inevitable consequence and reaction that we're going to see, not least because the energy infrastructure that is required by AI is enormous, and grid upgrades are going to be costly and somebody is going to have to pay, and that is going to include consumers and not just AI firms.

So we are all going to pay for this, and when affordability is already one of the key issues in elections around the world, this is going to matter electorally. People are not going to be happy.

We know that electricity prices will be a major US midterm election issue later this year, and alongside this electricity crisis, there is another crisis, and that is the hidden water crisis.

AI is going to consume vast volumes of water. Now, of course, it doesn't destroy it, but it requires it, and it has to be in the place where the data centre is, and the recycling of that water once it's been used to cool these places is going to take time and is not going to be easy to manage. The point is that water is going to have to be diverted to these places from where it is currently used, and we already know that water is in desperately short supply the whole world over. Climate change and the failure to do capital maintenance is already destroying supplies of water, not least in the UK, and AI is simply going to make this worse.

Data centres use chilled water for cooling. Every unit of AI output has a water footprint. It's thought that for every kilowatt hour of electricity consumed by a data centre, two litres of water is required. This is water usage on a scale that's very hard to imagine, given the vast amount of electricity that is going to be consumed by these places.

So we have a massive global water impact going on, as well as a massive global energy impact going on, and all of this is happening now. It is reckoned that very soon, AI in Europe will use six times more water than Denmark, that's enough water for 30 million people at least, and this can only grow. In a world where one quarter of humanity already lacks clean water, AI is simply going to tip the balance of power in favour of large corporations and away from ordinary people in a way that is almost unimaginable.

And, of course, there are environmental consequences. There will be strains on local water supplies. There will be disruption of ecosystems. Agriculture will be disrupted. So will the biosphere, and nature, and species and everything else, whilst alongside this, there will be increased emissions from fossil fuels, so heat will be rising. None of this is priced into AI services. Nor is it in our thinking on AI and the waste of investment that it might represent, because we may never be able to see the data centres that they're planning put into use precisely because physical constraints will stop that happening.

There could be a financial crisis as a consequence, just to top these absurd environmental demands and who benefits and who pays? Well, the big tech firms are,

of course, trying to capture the profits and energy companies will raise their prices, and we will pay. AI is not going to come cheap; AI is going to come at a cost, which is going to be enormous, and many communities will find that they tip over the edge. They will no longer have water security, and water is essential to life.

This is market failure on a dramatic scale. AI firms will never pay the full cost of the imposition that they are going to make upon us. Energy and water costs are going to be socialised, and profit is going to be privatised, and this is the recipe for a classic market failure, and the state cannot ignore this. Electricity grids are public systems. Water is a public resource, and climate stability is a public good. Leaving these things to the market is reckless, but that's what's going on with politicians supporting AI as if it is their salvation, because it delivers the promise of growth on which they hang all their hopes and expectations, quite recklessly, and the consequence is we are all going to suffer.

Questions have to be asked: very deep and real questions.

Should AI, for example, face energy rationing? Why not? It's creating the energy shortage. Why should they have a right to energy when real-life human beings may not get it?

Should data centres pay the additional costs that they will be imposing upon energy systems? Why not? They want the profits; they should pay the costs.

And should water use by AI be regulated or even capped so that there is a limit on the scale by which AI can grow simply because they will not be able to secure the water they need to cool the data centres that drive the whole process? Again, why not? Is AI such an important thing that we can afford to let the world go thirsty?

Planning, not panic, is required. I'm not anti-technology. I use AI; I can see some benefits from it. So let's be clear, I'm not saying that this thing is universally bad, but we do need to work out our priorities, and that is what planning is required for.

Should tech be allowed to make people jobless?

Should tech be allowed to deny people the basics of life that are essential for all?

Should tech be allowed to use these resources without accountability?

These are questions that are real because AI has to ultimately fit within our planetary limits, and all the indications are that it won't.

In that case, AI is quite simply not sustainable. This supposed information that it's going to generate is not worth the cost, and because AI is not immaterial, simply because the scale of investment that is being thrown at it, this is going to create massive physical consequences. And those consequences are accelerating, and more than that, they

may be so unsustainable that the questions have to be asked now, and not be put on the agenda when it becomes apparent that the costs are real.

AI's energy and water costs are real. We know that they're going to happen. We have to address them. That's because they will hit consumers and ecosystems very hard indeed, and potentially fatally, and I mean the word literally in this case. Without state intervention, damage is inevitable.

The question is not whether AI will grow, because at the moment, it clearly will. The question is, who's going to pay for that growth? Who will benefit and who decides, and how do we decide the ratios of power that are implicit within the answers that we provide to those questions, because this is a core issue in political economy, as a result?

The question is also, what gives? Because something is going to have to, and that again is key. Do we care? Or do we literally focus upon the politics of might and power, which is what AI is all about? These are questions needing resolution.

I know where I am biased. What do you think? Is AI going to be worth the cost it might impose upon us?

There's a poll down below.

Poll

[poll id="285"]

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