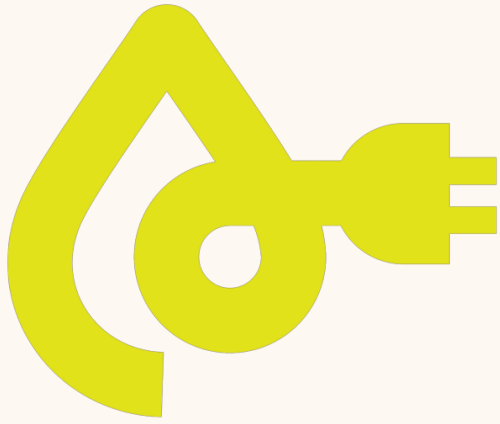




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Can AI Reduce the Carbon Footprint of AI?



Microsoft constructs a “wooden” data center



The hyper-scalers (Amazon, Google, Microsoft, et al) have an emissions problem. The data centers they are scurrying to build will consume vast amounts of energy.

To put a dent into an increased carbon footprint, the companies are turning to creative lower carbon solutions.



- Microsoft is building two Virginia data centers using cross-laminated timber (CLT).
- Popular in Europe, CLT is a strong, lightweight, low-carbon prefabricated wood material.
- It is also fire resistant, faster to install, up to 15% more cost-effective than concrete or steel, and energy efficient.
- The company estimates it will cut the emission of the two data centers by 35% compared to using steel, and 65% compared to concrete.



Amazon looks to low-carbon concrete and steel



- Amazon has reported that it has used low-carbon concrete and steel in at least 43 data centers worldwide.
- This year, the company claims it has saved more than 22,000 tons of CO₂ equivalent in constructing 27 data centers.
- I love this: Amazon says that the emissions savings is the equivalent to the emissions from charging 2.6 billion smartphones. Wow, right?
- Why use a smartphone comparison? Because if they used the common comparison of passenger cars the number (based on the EPA calculator) would be a not nearly as impressive sounding 4,750.

The cement and steel industries each account for about 8% of global CO₂ emissions.

Combined, the two industries are responsible for about 50% of all carbon emissions from industry.



Google partners with Purdue



Travis Horton, professor at Purdue's Lyles School of Civil Engineering said, "By combining Purdue's expertise in engineering and building science with Google's cutting-edge AI capabilities, we aim to develop innovative solutions that can significantly reduce the carbon footprint of industrial buildings."

- Google is working with Purdue University to employ AI to explore the use of low-carbon building materials and find new applications for these materials.
- Google is also using technology from Flexidao to verify that the power it uses is from green energy it has purchased.
- Flexidao touts that it has an energy intelligence platform that provides end-to-end tracking, analytics and risk management for a company's portfolio of clean energy contracts and certificates.



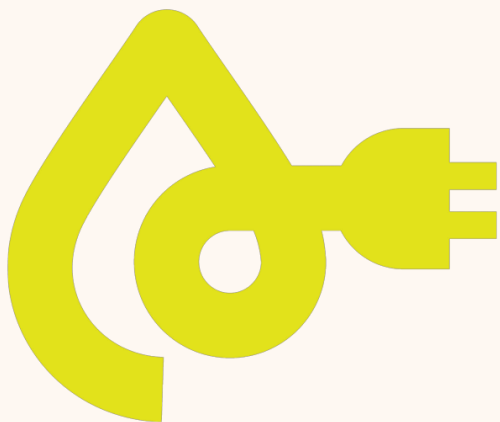
The facility used 450 tons of printing concrete from Heidelberg Materials.

The concrete is 100% recyclable and contains a binder that is estimated to achieve a 55% reduction in CO2 compared to pure Portland cement.

Just print it!



- In Germany, data center provider Heidelberg IT Management opened a new data center build with 3D-printing.
- The single-story, 6,600 sq ft facility known as Baufeld 5 and is located in Baden-Württemberg.
- It is reportedly the largest 3D printed structure in Europe, and the first 3D-printed industrial building globally.



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Unbiased and Unfiltered

- An honest assessment of the climate change effort.
- I cover what's working – but more important - the issues/roadblocks that the industry would prefer to ignore.
- A must-read for anyone with a desire to understand what's really going on with renewable energy and climate change.



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