



NEW TECHNOLOGIES AND THE ENVIRONMENT

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What is a Metaverse?

The metaverse is a computer-generated parallel world where people in form of Avatars (computer-generated images of themselves) act and interact with other Avatars in a computer-generated environment. In other words, it's a virtual world. The term was first coined by Neal Stephenson in his novel Snow Crash. In the book, the Metaverse is described as a three-dimensional virtual world where people can interact with each other and with computer-generated characters.

In this virtual world, people through their Avatars can talk to new people, play games with friends and strangers, drive cars or

bikes around town, attend concerts, and much more.

A metaverse also has its own rules, its own physics, and even its own currency called bits, coin, or token.



Metaverse is catching up. There are different metaverses created by different techies. I tried one called "Decentraland." If curious, you may like to

visit <https://play.decentraland.org/>

What is a Blockchain?

Blockchain is a shared ledger that records transactions and tracks assets in a business network. Blockchain stores information in batches called blocks. These blocks are

linked together in a sequential way to form a continuous line- a chain of blocks. That's why it is called a blockchain.

Blockchains are mostly used with cryptocurrencies like Bitcoin.

What is Bitcoin mining?

Bitcoin (or any other cryptocurrency) mining is the process of verifying new transactions to the Bitcoin digital currency system, as well as the process by which new bitcoin enter into circulation. As you can guess, Bitcoin mining is, of course, purely metaphorical. Bitcoin mining is done to record current bitcoin transactions in blocks, which are then added to a blockchain, or the record of past transactions.

Why Is Cryptocurrency mining bad for the environment?

Cryptocurrencies are so devastating to the environment that Elon Musk stopped trading in Bitcoin. As a result, the value of Bitcoin crashed from an all-time high of \$64,000 to \$22,000 now. According to the Cambridge Bitcoin Electricity Consumption Index, bitcoin-mining operations worldwide now use energy at the rate of nearly a hundred and twenty terawatt-hours per year. This is about the annual domestic electricity consumption of the entire nation of Sweden. A single bitcoin transaction uses the same amount of power that the average American household consumes in a month.

Why Is EV (electrical vehicle) bad for the environment?

Widespread adoption of electric vehicles nationwide will likely increase air pollution compared with new internal combustion vehicles which are very clean and efficient now. The energy required to run an EV comes from power generated by natural gas, fossil fuels, and coal. Even with large increases in wind and solar generation, the EIA projects that the nation's electric generating mix will be just 30% renewable by 2030. On top of that, the wires and charging stations needed to charge all those electric vehicles will put a strain on power generating systems and eventually will raise electric rates.

That's just one part of the equation. The real culprits are batteries that run EVs. This happens because these batteries are made of rare earth elements (REE) like lithium, nickel, cobalt, or graphite that only exist beneath the surface of the Earth and therefore depend on mining activities with very polluting processes. In the conventional car industry, according to a study from the international council of clean transportation (ICCT), 99% of lead-acid batteries (the ones running in fossil fuel-powered cars) are recycled in the US. This is not the case for lithium-ion batteries that have a very specific mix of chemical components and little quantities of lithium, which doesn't make them an appealing market opportunity. The EV batteries are either incinerated or dumped in landfills which don't make electric vehicles greener at all. I am not saying that EVs will never take off, but right now is not the right time to adopt EVs.