



Bitcoin: The Wrong Choice for Pennsylvania

Bitcoin was the first “cryptocurrency.” It is a digital alternative to cash that doesn’t rely on governments or trusted third parties like credit card companies to verify transactions.

Bitcoin and other cryptocurrencies record their transactions in a **blockchain**. That is a publicly shared database where each new block of data contains the digital fingerprint of the prior block. This fingerprinting makes it so nothing in the chain can be changed or deleted.

Currently a “**miner**” gets 6.25 Bitcoins as a reward for successfully adding a new block of data to the blockchain. This can mean earning over \$275,000 plus transaction fees for each new block.



Miners all over the world are in a race to earn that reward. To add a new block, a miner must be the first to guess the solution to a problem known as the **proof-of-work**. Since

the only way to solve this problem is trial and error, **miners increase their chances of winning by guessing again and again** as rapidly as possible.

The system is designed to limit the creation of new blocks to an average of once every ten minutes. This means that as more miners join the race and

make more and faster guesses, the difficulty of the proof of work increases. It’s like a lottery where the odds get worse the more people play.

To be competitive, **miners buy hundreds or thousands of special-purpose computers** (called application specific integrated circuits, or “ASICs”) that each make trillions of guesses every second. Each one of these ASICs can use **more than three times the energy of an average household**.

As a result, **the bitcoin network consumes a tremendous amount of energy—more than 130 million megawatt hours every year**. That is more than the entire state of New York and similar to entire countries like Sweden or Malaysia. For each Bitcoin that is mined, the **network uses more energy than the average Pennsylvania household uses in 40 years**.

Since most of that energy comes from dirty fossil fuels, **Bitcoin mining is responsible for millions of tons of added carbon pollution along with toxic air pollutants, dangerous particulates, acid gasses, and smog-forming compounds**. All of this does terrible damage to public health and the environment.



continued...

Why Bitcoin is a Problem in Pennsylvania

We don't need to waste energy

- The proof-of-work method Bitcoin uses is **wasteful by design**.
- Wasteful proof-of-work just isn't necessary. There are better and more efficient alternatives that can do everything Bitcoin can do.
- Energy—especially clean energy—is **too valuable to waste**.
- When miners increase the demand for electricity, **everyone pays the price**.

Policy Solutions to Fix the Bitcoin Problem

Stop the waste and protect public health:

- Enact energy efficiency standards that discourage wasteful proof-of-work crypto mining.
- Adopt emissions standards that require miners to minimize air pollution, particularly pollution that impacts our most vulnerable populations.
- Strictly enforce permit requirements for polluting crypto miners.

Make polluters pay:

- Ensure the full cost of environmental damages caused by wasteful and polluting mining operations are paid by the polluters, not the public.

No sweetheart deals:

- Taxpayers and ratepayers should never be forced to subsidize wasteful proof-of-work cryptomining.
- Stop proof-of-work mining operations from receiving subsidies such as the data center tax exemption, the waste coal tax credit, and tier II alternative energy credits.
- Disqualify proof-of-work miners from Pennsylvania's datacenter tax exemption.

Protect Consumers:

- **Inform potential investors.** Ensure Bitcoin and distributed finance products have disclosure requirements and consumer protections that are at least as stringent as other investments.
- **Protect Individuals.** Provide clear guidance to consumers regarding the risks of digital currencies.

Creating new jobs through clean renewable energy production is good.

Bitcoin miners use hundreds of thousands of special-purpose computers.

The bitcoin network consumes more than 125 million megawatt-hours every year.

Wasting energy on dirty Bitcoin mining is bad!

Bitcoin miners use dirty fossil fuels for energy, adding millions of tons of pollution to our environment.

Each Bitcoin created uses more energy than the average Pennsylvania household uses in 40 years.

There is a better way | pennfuture.org/bitcoin