Reducing Harmful Energy Consumption from Cryptocurrency Mining

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Problem

Cryptocurrency mining consumes extraordinary amounts of energy. Annual consumption from proof-of-work mining is estimated to be 120 and 240 billion kilowatt-hours per year. Bitcoin alone consumes more than the entire country of Norway.

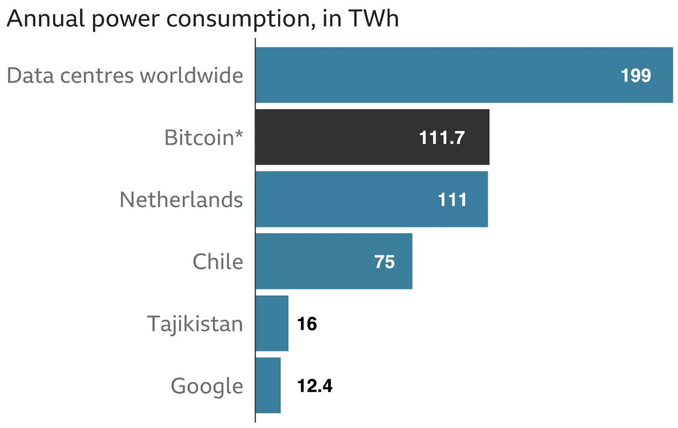


Figure 1: Annual power consumption of various companies, and organizations compared to Bitcoin in TWh
https://www.bbc.com/news/science-environment-56215787

Requiring Renewable Energy

We propose that the state of Wyoming require that 70-80% of energy used for cryptocurrency mining come from renewable energy sources. This would reduce the consumption of natural gas and coal energy for mining purposes. Our proposed solution would also encourage investment in advancing renewable energy technologies which could impact other industries as well. We specifically chose Wyoming because they currently have many favorable laws for cryptocurrency companies.

Assumptions, Barriers, and Effects

- Intervening on the state level is more manageable and will have a greater effect by influencing more states to pass regulations.
- Requiring renewable energy in Wyoming could just force mining companies to move to other states with low energy cost.
- The upper limit of crypto coins is 21 million which is estimated to be reached in 2140, giving us ample time to intervene.
- The point of cryptocurrency is to be decentralized and unregulated by the government. This intervention could yield backlash from key stakeholders
- Crypto mining companies are for profit and the ideal situation would include lower prices for renewable energy.

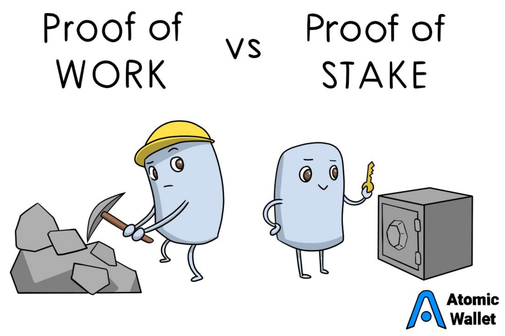
Figure 2: "How do we solve bitcoin's carbon problem"
https://www.theguardian.com/technology/2022/jan/30/how-do-we-solve-bitcoins-carbon-problem

Necessary Resources

To propose a bill the public, such as climate lobyists, must write to their lawmakers so that it gains ⅔ support in a budget session. For a bill to be passed in the State of Wyoming, the bill would need to be read a total of three times by the House of Representatives for the State and a committee that is comprises of members of the legislature in the specific area of the bill. Finally, the bill is handed to the Governor to review. They can sign the bill into law, veto the bill, or allow the it to become a bill without signature.

Alternative Solution We've Considered

We considered a ban on proof-of-work, the method of generating value used by most cryptocurrency mining companies, in favor of proof-of-stake. Proof-of-stake uses 99% less energy than proof-of-work and is used by the second largest cryptocurrency company, Etherium. We decided this would not be as effective because currency can be transferred from proof-of-work to proof-of-stake so it may not reduce energy consumption from mining as much. Additionally, it would not benefit the renewable energy market and might just move mining to other states.



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