



## **Cryptocurrencies and Sustainability**

Can one quantify the environment externalities of mining cryptocurrencies and compare various cryptocurrencies on such externalities? This topic is concerned with the economics and accounting of energy, health, societal and carbon emissions related to cryptocurrencies, Please note that the research proposal is not to address all of these questions, but just one aspect of one question e.g., focusing narrowly on comparison of the health impact of mining various cryptocurrencies. Regulating the designs of Blockchain technology for environmental purposes, or creating new protocols are not covered under this.

Given below are some of the papers in this domain. These may be of interest to researchers in Accounting, Finance, Information Systems, Economics, Business, Healthcare, Sociology, Political Science, Philosophy, etc.

Giungato, P., Rana, R., Tarabella, A., & Tricase, C. (2017). Current trends in sustainability of bitcoins and related blockchain technology. *Sustainability*, 9(12), 2214.

Stoll, C., Klaaßen, L., & Gellersdörfer, U. (2019). The carbon footprint of bitcoin. *Joule*, 3(7), 1647-1661.

Goodkind, A. L., Jones, B. A., & Berrens, R. P. (2020). Cryptodamages: Monetary value estimates of the air pollution and human health impacts of cryptocurrency mining. *Energy Research & Social Science*, 59, 101281.

Mora, C., Rollins, R. L., Taladay, K., Kantar, M. B., Chock, M. K., Shimada, M., & Franklin, E. C. (2018). Bitcoin emissions alone could push global warming above 2 C. *Nature Climate Change*, 8(11), 931-933.

O'Dwyer, K. J., & Malone, D. (2014). Bitcoin mining and its energy footprint.

De Vries, A. (2018). Bitcoin's growing energy problem. *Joule*, 2(5), 801-805.

Vranken, Harald. (2017) "Sustainability of bitcoin and blockchains." *Current opinion in environmental sustainability* 28: 1-9.

Krause, M. J., & Tolaymat, T. (2018). Quantification of energy and carbon costs for mining cryptocurrencies. *Nature Sustainability*, 1(11), 711-718.

Belkhir, L., & Elmeligi, A. (2018). Assessing ICT global emissions footprint: Trends to 2040 & recommendations. *Journal of Cleaner Production*, 177, 448-463.

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