

Bitcoin: A Tool for Environmental Cleanup

Abstract: Bitcoin mining is an industry with unusual characteristics that can positively impact sustainability, net zero, and humanity's global carbon footprint in general.

Methane Emission Mitigation

- Methane is 25 times worse than CO₂ for warming
- Methane can cause respiratory illnesses
- Bitcoin mining is a tool for methane mitigation
- Miners convert methane into electricity, and that electricity is used to mine Bitcoin
- Bitcoin mining might be the most cost-effective way to reduce methane emissions.

Wind & Solar Benefits

- Wind and solar are intermittent energy sources
- These only generate power when the wind is blowing, and the sun is shining
- Wind and solar have to curtail large amounts of energy each year as grids cannot accept it
- Bitcoin mining can be placed next to a wind or solar farm to soak up excess generation
- Those same miners can power down when the grid needs the energy

Grid Balancing

- When the grid is stressed, miners can power down and deliver energy back to the grid
- This is superior to requiring expensive and carbon-intensive 'peaker plants' to boot up
- Balancing the grid by mining can also help reduce rates in the long term for consumers and incentivise the growth of renewables.

PAPER: [An integrated landfill-gas-to-energy and Bitcoin mining model](#)

PAPER: [Bitcoin's Carbon Footprint Revisited: Proof of Work Mining for Renewable Energy Expansion](#)

PAPER: [Leveraging Bitcoin Miners as Flexible Load Resources for Power System Stability and Efficiency](#)

PAPER: [Cryptocurrency mining as a novel virtual energy storage system in islanded and grid-connected microgrids](#)

PAPER: [Leveraging Bitcoin Mining to improve access to electricity in rural Africa](#)