

What is Bitcoin mining?

Bitcoin mining is the process in which transactions made on the Bitcoin network are verified and recorded in the public database (blockchain).

Special high-performance computers called miners are used for this purpose. The circuits used in miners are called ASICs (Application Specific Integrated Circuits), and they have just one task to perform: to test random combinations of numbers, also known as hashes, until a valid hash is obtained. This happens very fast at a speed of up to 100 terahash per second.

Advantages of a Bitcoin miner

- Deployable anywhere
- Reliable and controllable consumers of electricity
- Waste heat emitted by the mining process can be stored and used elsewhere
- Can be used as an additional source of income (subsidy, passive income)
- Flexible consumer of electricity: miners can react very quickly to network signals such as price, a change in demand or a power station outage
- Very large amounts of energy can be both consumed and controlled by mining
- Advantages in comparison to other industries that can also provide grid balancing include more favorable response costs, response times, availability and fine-tuning

Would you like to find out more about Bitcoin mining?

Contact us!

 terahash

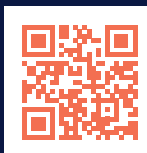
Bitcoin mining

Innovative solutions for consuming surplus energy

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TO THE WEBSITE



Bitcoin & energy – how are they connected?

The use of green, renewable energy combined with innovative technologies such as water-cooled Bitcoin data centres can play a decisive role in the transition to green energy.

Basics & challenges

The trend towards becoming energy self-sufficient is an important part of the energy transition. Instead of relying on large, central energy producers such as coal plants, renewable energy sources, such as solar panels, are increasingly being installed on both private and company properties.

Advantages of renewable energy sources, such as solar and wind power:

- Inexhaustible and sustainable
- Reduction in the time needed until the investment in renewable energy pays off

Nevertheless, there are big challenges:

- Rising future demand for electricity
- Increases in frequency fluctuations in the power grid
- Economic and legal factors slow the expansion of renewable energy solutions despite their superior features

Traditional solutions

- Reduce energy consumption
- Spread electricity production across different times of day
- Energy storage solutions
- Flexible power plants
- Load balancing

Innovative solution: Bitcoin miner

1. BITCOIN MINERS AS INITIAL CONSUMERS

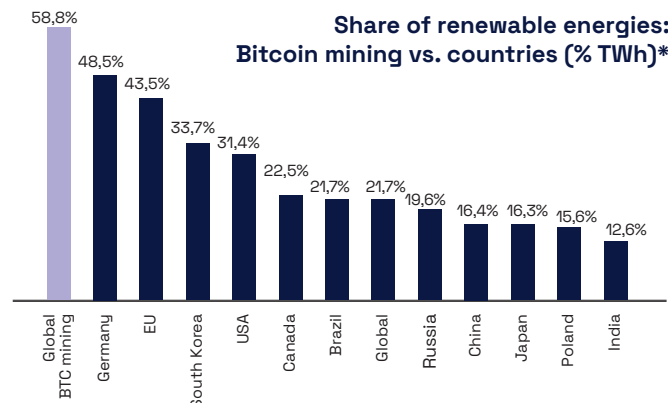
Bitcoin miners are very versatile. For example, they can act as a subsidy for new renewable energy projects by being the initial energy consumer, before the energy can be fed to the grid.

- Power consumer that can be deployed anywhere
- Enables the development of new energy sources, which don't already have a well-developed infrastructure (grid connections, storage, consumers)
- Subsequent infrastructure build-out at low overall costs possible

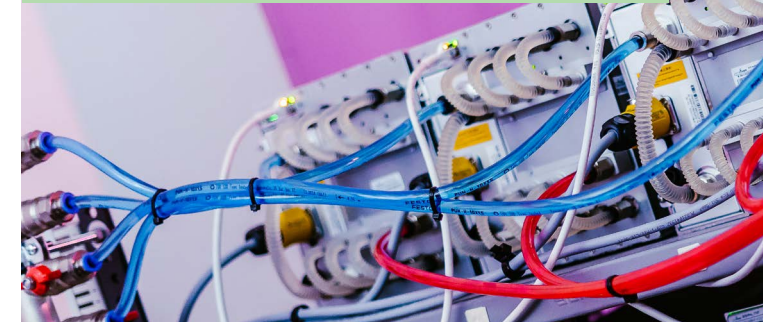
2. BITCOIN MINERS AS BUYERS OF LAST RESORT

With the transition to renewable energy, it is essential to have considerably more capacity available than is typically required, so demand can be covered at all times, even on days with little wind and sun.

The surplus production on days with a lot of wind and sun represents a significant cost factor. Thanks to the features of miners, this energy can be monetized instead of wasted.



Energy lab & research



The Energy Research Centre is one of terahash's internal projects to build know-how and experience in bitcoin mining in combination with renewable energies.

Our goal is to develop market-ready products such as intelligent software for controlling miners, to provide solutions for companies interested in incorporating bitcoin mining in their production processes.

Game Changer:

- Water and immersion cooling facilitates the recovery of waste heat
- Waste heat recovery and its use in combination with intelligent mining control

