



MELATI

WHITE PAPER

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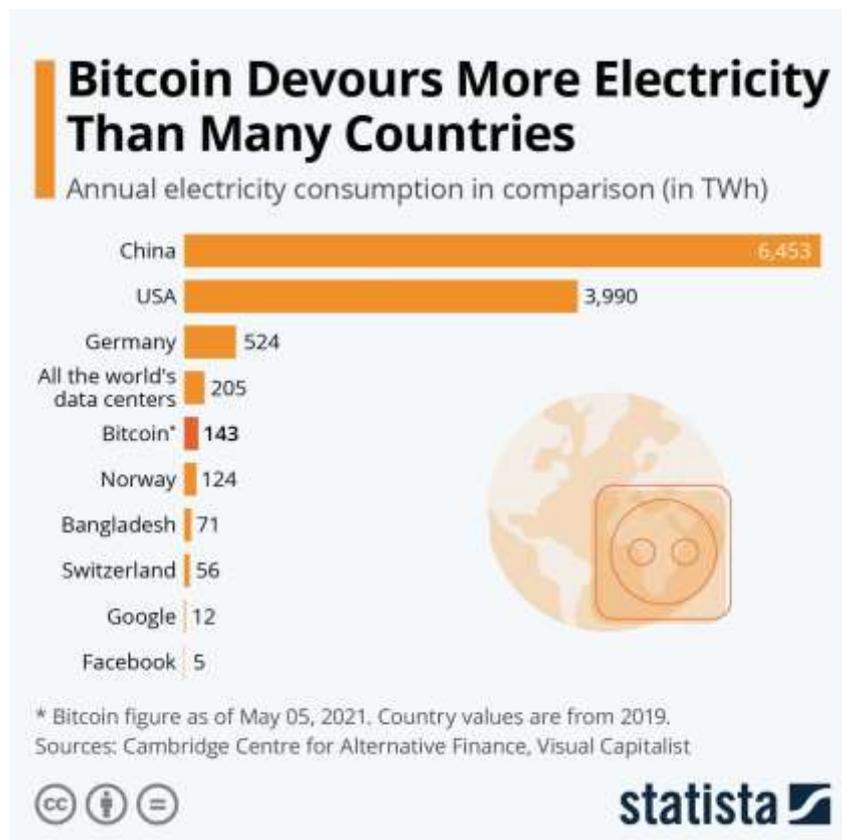
SYNOPSIS

Started to reduce energy use in Cryptocurrency transactions, built by veteran Cryptocurrency miners and a community of green Cryptocurrency for everyone.

Abstract

Cryptocurrencies have been some of the most talked-about assets in recent months, with bitcoin and ether prices reaching record highs. These gains were driven by a flurry of announcements, including increased adoption by businesses and institutions.

Lesser known, however, is just how much electricity is required to power the Bitcoin network. To put this into perspective, we've used data from the University of Cambridge's Bitcoin Electricity Consumption Index (CBECI) to compare Bitcoin's power consumption with a variety of countries and companies.



Cryptocurrency mining activities that will become the future will be even more promising if dominated by green cryptocurrency technology. Businesses are increasingly being encouraged to implement their products in blockchain is becoming safer, faster and definitely safer for the environment. Melati will contribute to building a payment platform that leverages Melati blockchain technology. mine and perform crypto transactions without using excessive energy, bringing more people to trade easily cryptocurrency as a digital asset and provides a convenient and safe solution for controlling energy use for everyone.

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PROBLEM & SOLUTION

2.1 Problem

We believe that readers are familiar with bitcoin, bitcoin was created in 2009 by a person or group on behalf of Satoshi Nakamoto, he or they created a new alternative store of value that has not been seen in the eyes of human history. After decades, his creation, Bitcoin, has secured its place as the most difficult form of money in the new digital economy and the foundation of a new, open global financial system. Bitcoin changes the world! However, there is always one complaint about the breakthroughs developed by Satoshi and that is the cost of energy.

According to several sources (BBC) Bitcoin with its Proof of Work consensus has burned an amount of energy comparable to that of Argentina. That's why we call it a "competitive money burning process". Every transaction that occurs is entered into the ledger, miners compete to be able to solve puzzles and win prizes. However, only one of them can solve it. When a block is found, the process is restarted. It's definitely not a perfect system, but it's the most efficient one ever invented.

It seems that if the blockchain is stored on every network node, then a special service or authority can't shut down Bitcoin suddenly, because there's no centralized server or something similar — they don't have anyone to go to if they want to close everything. However, it was only an illusion.

In fact, all the "independent" miners are merged into a group (technically, they are a cartel). They have to join the assumption that it is better to have a small but stable income than a big one maybe every thousand years (and even that is not guaranteed if you are on your own).

And it's not just decentralization that's up for grabs these days. After months of banning the purchase of electric vehicles with Bitcoin citing environmental concerns, namely the increasing use of fossil fuels for cryptocurrency mining needs, Tesla Musk announced last month that it will begin accepting Bitcoin payments for electric vehicle purchases again. However, with the condition that Bitcoin mining is 50% "greener" or environmentally friendly. Taken together, this sent the Bitcoin price up 11.88% towards the level of 39.56 USD. Needless to say, the market reacted positively to the news.

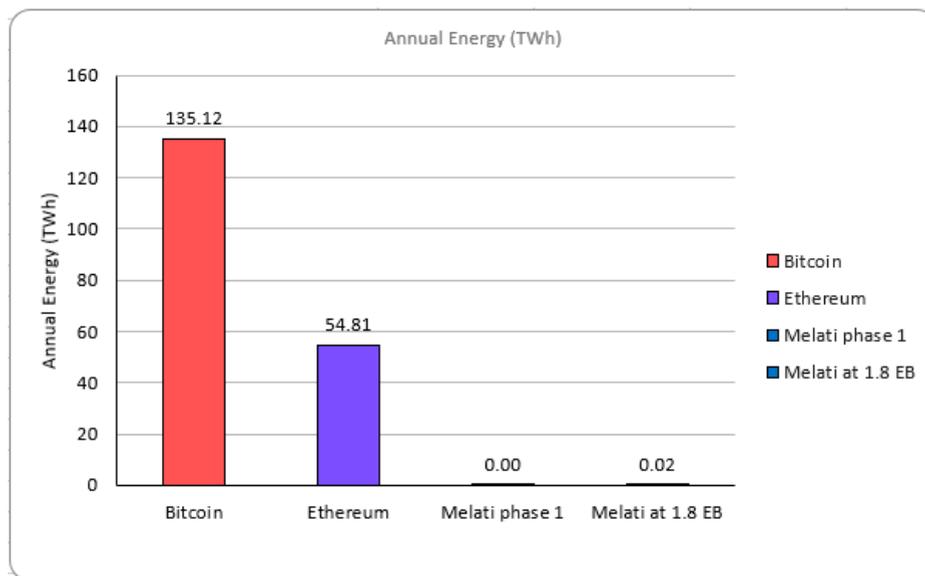
Having said that, it is clear that there are fundamental issues that the crypto space needs to address, if it is to accelerate adoption rates and meet the requirements of creating eco-friendly mining.

2.2 Solution

We at Melati (XMX) is a new fork from Chia. Melati was founded in July 2021 to develop an enhanced blockchain and smart transaction platform sourced from Chia. Unlike Chia, which has a premium of 21,000,000, Melati only has 300,000 premiums for the development and continuity of the Melati project. We are building the Melati Network to improve the global financial and payments system. Melati is the first enterprise-class digital money after Chia.

Melati uses an algorithm built by Chia called Space and Time Proof, it was created by Bram Cohen, the best network protocol engineer and inventor of BitTorrent. And we as crypto enthusiasts and believers in the potential of blockchain technology, think that access to blockchain and cryptocurrency projects should be democratized so that basically everyone who has spare hard drive storage will have the opportunity to take part in the validation. Transactions without exacerbating its own footprint. Crypto can be smart, simple, inexpensive, and, most importantly, green and highly decentralized and highly secure. Melati is the latest breakthrough in Chia and is able to create acceleration, Melati is able to break through the 72% mark faster than Chia who was born in the block.

Melati is the solution to the "Proof of Work" energy problem



One month after mainnet launch we observed Netspace growth and observations Initial growth (phase 1) of the Melati network was dominated by farmers who previously farmed chia. They just need to install them Melati blockchain software and they can use the plot they have created for chia. that way there is a lot of energy for plotting that is saved. On the other hand there are also those who

specialize in buying hard drives for Melati farming, they purchased high capacity 3.5in nearline HDDs, by early adopter farmers. Avg capacity could be as high as 15TB

Phase 2 of growth will be dominated by smaller farmers, pools, coming mostly from underutilized storage

Include 6 & 8TB into low cap avg range for power consumption

Integrate plotting power into energy consumption by assuming the life of a plot and amortizing the energy used to create it over the lifetime of the plot. Use real measured data and power consumption of melati community plotters to get a range for power consumption.

Energy consumption in kWh can be calculated by assuming an estimated percentage of the network using consumer hardware with spare capacity (underutilized resources already owned), which happen to be very efficient due to the transition in mainstream computing devices to SSDs over the last decade, as well as the percent of dedicated farmers that are using dense storage configurations with data center grade equipment.

This is a link to a [working model](#) (includes legacy calculations and estimates in other tabs).

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COMPANY VISION

3.1 Melati – Fast but still Eco-friendly

Our team collaborates and develops on the technical work and outstanding ideas of the Chia Network project, which focuses on energy-efficient blockchains that aim to make mining accessible to everyone and significantly reduce environmental damage.

Given recent concerns about Bitcoin's energy consumption, mixed with our belief that there is always a better/smarter way to achieve results, we decided that we wanted to further develop this project to make it faster and up-to-date.

The Chia network created their native currency driven by the belief that "cryptocurrency should be easier to use than cash, harder to lose, and nearly impossible to steal". We strongly agree with this, with a common vision, we try to make a breakthrough and develop the Chia Network and create the Melati Network which has several advantages over the Chia Network but does not eliminate the advantages of the Chia Network.

In general, mining requires rigs that consume large amounts of energy and require additional infrastructure investments, such as hardware, broadband connectivity, and other critical components, which together contribute to an overall high carbon footprint. The existence of Melati is to dispel existing myths and try to make cryptocurrencies more green and maintain quality in terms of convenience, security, and speed.

3.2 Value Proposition and Vision

It will take years (21 to be exact) for other network participants to plant as much Chia cryptocurrency (XCH) as the company behind it received from the Chia genesis block. This is where we see opportunities for improvement and more efficient and equitable ways to achieve Chia's original goals. Melati created a groundbreaking accelerated and greening alternative to the popular consensus algorithm, Proof of Work, and a more secure and decentralized alternative to Proof of Stake, based on the so-called Proof of Space and Time (PoST) algorithm implemented by creator Chia Bram Cohen.

Melati will definitely ensure that most of the economic value generated by the existing platform is distributed equitably to its community to create a more equitable allocation of resources, which means no number of coins will be mined/farmed beforehand, therefore there will be no strategic reserves, what happened to Chia.

By definition, pre-mining is the creation of a number of cryptocurrencies before the digital currency becomes publicly available. Typically, "pre-mined" coins are used to reward developers, and anyone else who helps get the project started. We see a lot of downsides from this initial bounty for the original team hardcoded on the blockchain, as we think that pre-mining mainly caters to the coin makers themselves and gives them too much control over their own cryptocurrency, thereby creating mistrust among users. In theory, pre-mined coins could be set aside by the network's early contributors prior to official release. In the case of an increase in the price of a coin, the pre-mined coin may be brought back to the market, causing a reasonable decrease in the market price and harming outsiders.

We believe in total decentralization and our developers can farm in the same way that network participants can, without being prioritized in any way. We are optimistic about this technology and believe that Melati can become an eco-friendly "Bitcoin" used for global transactions and payment instruments.

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PoW/PoS vs. PoST

The Melati Network relies on a so-called "New Nakamoto Consensus" algorithm called Proof of Space and Proof of Time (PoST). These new methods were created with the idea that they should not consume significant amounts of electricity.

4.1 Proof of Work

- Cryptocurrency Proof of Work (PoW) burns huge amounts of electricity. In addition, they tend to become centralized because the concentration of hardware manufacturing and ownership and concentration of cheap energy make PoW inaccessible to ordinary users and vulnerable to various attacks.
- On the other hand, Proof of Stake (PoS) takes many forms, each with its own pros and cons. Some common drawbacks are concentrated funds control by exchanges, concentration of delegation, relying on checkpoints and subjectivity (requirement to be online regularly), inaccessibility to regular users, risk of deduction, assumed clock synchronization, network assumptions, and other security assumptions.
- Proof of Space - Chia has previously articulated his technical vision, called the PoST consensus model. This paper outlines Chia's vision for sustainability and it is something that Melati is closely related to.

4.2 Proof of Space

In accordance with Chia's Proof of Space development, the Proof of Space protocol is one where:

- Verifier can send challenges to Prover, and
- Prover can show Verifier that Prover reserved a certain amount of storage space at the right time.

The Proof of Space protocol has three components, namely Plotting, Proving or Farming, and Verifying.

- Plotting

The process by which a Prover, whom we refer to as a "farmer", initializes a number of spaces. A farmer can be one who has at least 239 GiB (or 256 GB) available for backup on their laptop, or a company that is set up to allocate large volumes of unused storage space. There is no maximum limit. Plotting takes time on the order of hours or days, and is done only once. The initialized space is occupied by a file called "plot". Plotting takes time and CPU power.

One can move the plot from one machine to another without any restrictions. Some people build special plotting machines that are optimized for fast plotting, and then move the plots to less powerful machines for harvesting.

- Farming

Farming is the process by which a farmer accepts a series of challenges to prove that they have legally waived a specified amount of storage. In response to each challenge, farmers inspect their plots, produce evidence and submit proof of victory to the network for verification.

- Verifying

After a farmer has succeeded in making a Proof of Space, the proof can be verified by doing several hashes and making comparisons between the x values in the proof.

4.3 Proof of Time

Melati will use Chia's innovative PoST consensus algorithm, which is an attempt to enhance PoW-based blockchain with a new twist. Instead of consuming huge amounts of electricity and wasting single-purpose ASIC Hardware to validate transactions, Proof of Space leverages the exabytes of storage space that already exists in today's world. Proof of Time takes the actual time to pass between blocks. Proof of Time is implemented by the Verifiable Delay Function (VDF) which takes a certain amount of time to calculate but is very fast to verify. The main idea of VDF is that VDF requires sequential computation, so having many parallel machines or CPU/GPU/ASIC (as in PoW mining) creates no benefit, and therefore electricity waste is minimized.

4.4 How to Start Farming in Melati

To become a Melati "farmer", users first need to make sure they have enough free storage space on their hard drive or SSD. Then participants on the Melati network are expected to be able to download the Melati desktop client from the website, which will store the cryptographic number on their hard disk into the plot. This is the most energy efficient part of the farm and will take several hours.

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EMISSION SCHEDULE

Farm rewards will create new Melati tokens (XMX) once the Melati network is launched. A "farmer" can "plot up" the excessively available hard drive space to prove that some space is available for the network. The network will have a limited supply of 23,005,920 XMX tokens and once a farmer unlocks this number, the supply will run out. Initially, there will be 4,608 reward blocks a day and one of these plots will "earn" 2 XMX every 18.75 seconds. Block rewards are cut in half every 4 years, following the same halving model as Bitcoin. Once the total amount of XMX coins has been minted, rewards will only be generated from transaction fees. The value of Melati will be determined by the market forces of supply and demand.

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PROJECT FUNDING

The project is largely funded by personals and in-house XMX farming. 50% of our personal funds are used for software development, 30% is used for infrastructure and 20% will be used for community activities. The founding team will contribute to the project at least indefinitely.