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Bitcoin Mining Can Be Profitable, If You Generate The Power



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Crypto & Blockchain

I report on the adoption of cryptocurrency, stablecoin and blockchain.



Bitcoin mining at 20MW, the Team at Greenidge located in the Finger Lake Region of New York State, ... [+] GREENIDGE

The New York Finger Lake Region is known for its wine and glacial formed waterways. It is a beautiful place. And it now hosts one of the largest Bitcoin mining facilities in the U.S.

Greenidge Generation is a former coal-fired electrical power plant that has converted to natural gas. They supply electrical power to New York State's residents. Every day Greenidge has to bid in a competitive power market – sometimes, they make a profit when energy demand is higher. The company has been in business since 1937 but, in the last decade, suffered against cheaper power sources. The facility was mothballed in March 2011. Competition from cheaper shale natural gas supplies and coal exports from China put the old company into economic distress. Atlas Holdings bought the plant in 2014 and converted it to natural gas in 2017.



BROOKLYN, NEW YORK - JULY 4: Six meters placed by National Grid measure natural gas consumption in a ... [+] GETTY IMAGES

Atlas, which buys and transforms distressed industrial companies, helped turn the company into a more efficient energy model. But profits were always tight. It was in 2018 that CEO Dale Irwin and CFO Tim Rainey had the idea to use excess capacity to mine Bitcoin. This was a unique idea in the United States. Rainey says, "Cryptocurrency mining was an idea that evolved following discussions with

our Board and leadership team, as we explored the best way to utilize the unique assets we have at the facility. Our Board approved a plan to pursue Bitcoin mining."

Dale Irwin said, "We started with a couple of S9's and some GPU rigs in early 2018 to familiarize ourselves with the economics of the machines and learn how to operate and run them. We turned that into a small test pilot of several hundred machines from many different manufacturers in May of 2019. After completion and analysis of the test pilot, we built the current data center within four months, starting our larger-scale mining operation in January 2020." They currently operate 8,500 of the latest generation miners from Bitmain and other manufacturers.

Greenidge is using over 20 megawatts (MW) of power to mine Bitcoin, which makes it the largest energy company in the U.S. with this kind of strategy. In comparison, 20MW is not very big, next to other countries. There are larger Bitcoin mining facilities. The University of [Cambridge's Bitcoin Electricity Consumption Index](#) shows that global power use is estimated to be 7.25 gigawatts (GW), where China uses a bit over 71% of the global total.

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Riot Blockchain, by comparison, said in their July 16th 2020 press release that their aggregate power consumption would be 12.8 megawatts.

The company purchases natural gas through forward contracts setting a threshold price. Electric power production costs will fluctuate and

influence the decision to mine crypto or sell power to the grid.

Greenidge wants to increase its energy consumption. The company has plans to use the plant's total capacity of 104MW next year.

Mining Bitcoin and cryptocurrency is an energy-intensive enterprise. Some argue that it is a waste of energy and that digital assets are purely an environmental drain. One megawatt, by some estimates, could power about 800 homes on average per year. But this is a difficult statistic to estimate; electric consumption changes by region and need.

The company calls itself a power plant-mine hybrid, where it can generate more value being able to provide power to New York's grid or mine cryptocurrency. The choice to one or the other depends on what is more profitable on the day. Irwin continued to say, "Without crypto mining, it was economically unfeasible for us to provide capacity and energy to the state grid year-round and to continue providing employment opportunities to the local community, which provides the bulk of our workforce."

Rainey said, "As both the cryptocurrency markets and the power markets are constantly fluctuating, we do whichever is more profitable at any given time - either sell the generated power or mine crypto with that power. Although there is no fixed threshold of revenue from selling power that would make us want to sell the power instead of mine crypto, currently that number would be over \$100 per MWh of power that we generate."

This model is unique as mining Bitcoin is not a trend in the power industry. If there are other power companies in similar situations, could this be a sustainable way to add income?

Tim Rainey said, "Without the mining operation, we would not be running most of the time, but if we ran around the clock, year-round, we would generate revenues of about \$20/MWh. Bitcoin mining revenue with the latest generation hardware ranges anywhere from \$70/MWh to north of \$200/MWh depending on price, global hashrate and difficulty."

Time will tell, but Rainey did add, "We've been able to capture over \$500k additional revenue during hours when we would not otherwise have been dispatched to be online. Additionally, we are unique in that the same highly-skilled engineers, electricians, and other technicians that are on-site running the power plant 24/7 also help operate and maintain the mining hardware."

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