

# Crypto mania in Texas risks new costs and strains on shaky grid

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Credit: CC0 Public Domain

David Naylor's knowledge of cryptocurrency was limited, to say the

least, when Bitcoin miners started approaching him last year about buying power from the utility he runs across a 16-county stretch of rural Texas.

"I was writing it down, B-i-t-c-o-i-n," said Naylor, chief executive officer of Rayburn Country Electric Cooperative Inc., which provides power to about 229,000 customers—mostly small towns and homes—north and east of Dallas.

Naylor has had to get up to speed quickly. He's received multiple proposals to build Bitcoin mines, with rows of electricity-guzzling computers that solve mathematical problems to create digital coins, on what's now ranch land. Two of the mines would each require as much as \$20 million to fortify [power lines](#) and avert blackouts. Each would consume enough electricity to power as many as 60,000 Texas homes. Utilities like Rayburn have to provide service to miners if it's technically feasible to do so, but upgrades to the grid threaten to drive up bills for consumers already shouldering price shocks for almost everything.

Rayburn's talks with Bitcoin miners illustrate the conundrum utilities face as crypto companies like Riot Blockchain Inc. and Argo Blockchain Plc flock to Texas, spurred by almost nonexistent regulation, relatively cheap electricity and Governor Greg Abbott's quest to make the state the global center for crypto mining. Besides threatening to boost power bills, the dozens of Bitcoin mines proposed are also a risk to the state's shaky power grid after a deep freeze last year left hundreds dead and pushed up prices so much that utilities were left with massive debts or bankrupted.

"These are just challenges we've never faced before," Naylor said in an interview.

Texas utilities may have to figure it out largely on their own, weighing

the cost of upgrades against long-term benefits like revenue that can be invested in protecting against outages. It falls to the Electric Reliability Council of Texas, the state's grid operator, to evaluate how Bitcoin mining will affect the power system. So far, Ercot hasn't publicly disclosed what it's done, but its members will vote this month on creating a task force to understand how many mines will connect to the grid and how fast. New types of demand come with a number of risks and challenges, and "Ercot will continue to coordinate and collaborate with its regulators and stakeholders to successfully integrate crypto loads," the grid operator said in an emailed statement.

It's too early to estimate how much Texans' power bills could rise as a result of Bitcoin mining. But the city of Plattsburgh, New York, may provide clues. After power prices surged, Plattsburgh temporarily banned crypto mining in 2018 until it could pass measures to regulate the industry. Two counties in Washington state took similar steps.

Overall, Bitcoin mining cost residents and businesses in upstate New York about \$250 million a year in higher annual electricity bills, a 2021 University of California Berkeley study concluded. Mining pushes up monthly electric bills about \$8 for individuals, and \$12 for small businesses, the researchers estimated.

Industry advocates argue that as Bitcoin mining booms in the state, someone will come along to build more power plants. One year after the deadly winter storm, a record amount of solar capacity is planned for Texas. Plus, miners say their ability to quickly throttle back operations when the grid needs power will actually make the system more stable. Bitcoin mines shouldn't cost consumers much because they seek out more sparsely populated areas with electricity to spare, said Lee Bratcher, president of the Texas Blockchain Council, a lobbying group.

But Rayburn's experience shows that's not always the case. Miners are

looking at remote sites, which in some cases will require millions of dollars in grid upgrades, Naylor said.

Utilities across Texas are fielding proposals. American Electric Power Co. is weighing requests from 75 to 100 Bitcoin miners to connect primarily across West Texas and is evaluating the need for upgrades to handle the mines. Golden Spread Electric Cooperative, which serves the Texas Panhandle and Central Plains, is studying inquiries from two dozen miners.

Austin Energy, which powers the state capital, says investors want to build five mines just outside Austin that would need a total of 1,000 megawatts of electricity, equal to about two-thirds of the city's current demand. That may require the utility to build more [transmission lines](#), said Erika Bierschbach, vice president of energy market operations.

"The risk is that we don't manage the opportunity very well," Bierschbach said. Austin Energy, Rayburn and Golden are considering whether to require miners to pay higher power rates.

Upgrades to the power system will be needed because the grid "can't handle all of this new load," said Evan Caron, a former power trader in Austin who invests in energy technology. New investments in the transmission system are typically shared among Ercot's consumers and show up in their utility bills. This year, Ercot expects more than \$4.5 billion in transmission charges to be distributed among users from factories to utilities.

Given the crypto industry's notorious volatility, there's also the chance that miners will close up shop, leaving ratepayers to cover the costs of upgrades that may no longer be needed. To mitigate that risk, utilities can ask for a deposit, which would be refunded after the miner uses the power for a certain period of time.

Worldwide, mining consumes an amount equal to twice what's needed to power every light in the U.S., according to the University of Cambridge's Bitcoin Electricity Consumption Index.

But in Texas, the payback can be immense because electricity is so cheap, Caron said. Even if Bitcoin prices fell to \$30,000—roughly 25% below current levels—miners would still make revenue equal to about six times the cost of power, he said.

At Rayburn, CEO Naylor wants to make sure he's not taking undue risks to help deliver those returns. Rayburn had to sell \$908 million of bonds in February to cover the bill from Ercot for soaring power prices during last year's crisis, and it will take 28 years for customers to repay the debt.

The risks may pay off because crypto miners have pledged to shut down in times of crisis to conserve [power](#), Naylor said. The biggest Bitcoin [miner](#) in Texas, Riot Blockchain, did so in February and last year, and others, such as Compute North LLC and Bitdeer Technologies Holding Co., have committed to shutting if needed.

Even with those safeguards in place, Bitcoin mining comes with costs. "It's definitely going to have an impact," Naylor said. "It's simple supply and demand."

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