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ENERGY LAWYERS ON DEMAND



# POWER UP BLOCKCHAIN

a weekly briefing on blockchain & energy innovation & regulation  
US & global coverage



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**[With Great Bitcoin Power Comes Great Energy Usage](#)**

Ever wonder why bitcoin uses so much energy? Bitcoin miners create solutions to complex algorithms that are added to blockchains and are then rewarded with bitcoin shares. These blockchains automatically reset every 2 weeks forcing miners to keep upgrading in order to earn rewards as fast as competitors. The more computing power used, the more electricity required. [Read more...](#)

**[Can Blockchain be Used to Offset Carbon from Other Blockchains?](#)**

New Era Energy's new project is using blockchain technology to offset carbon emissions from other blockchain companies by making the current carbon credit market more transparent and accountable. [Read more...](#)

**[Plug into Zug: Blockchain Voting Victory in Switzerland](#)**

Zug, Switzerland, has successfully completed a voting trial using blockchain technology to record votes via smartphones. Known a tax haven, Zug is next trying to brand itself as a new leader in tech and virtual currencies. [Read more...](#)

#### [Down Under Where the Deals Go Down](#)

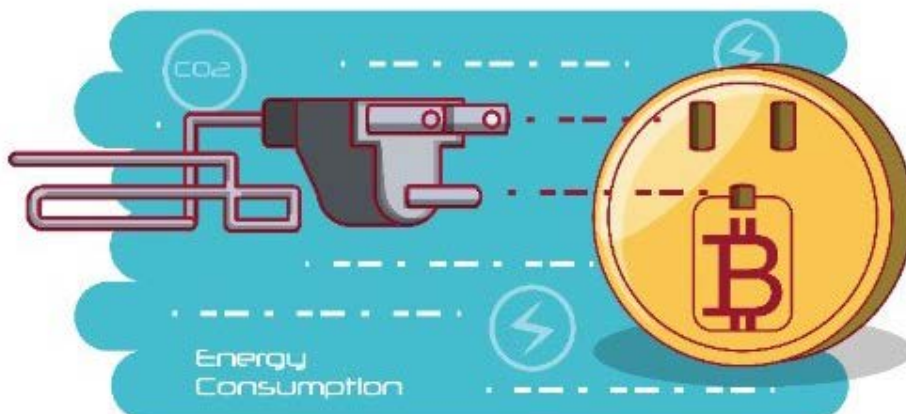
IBM has reached a billion-dollar agreement with the Australian government to bring blockchain and other technologies to federal departments in hopes to make the country one of the top digital governments in the world. [Read more...](#)

#### [Buyer Beware: ICOs Scams Hurting Blockchain Credibility](#)

Scammers are trying their hand at creating sophisticated ICOs for unsuspecting companies. The latest victim, Turbulent, a company unrelated to blockchain, has luckily shut down the ICO with only \$1000 stolen from investors thanks to warning its large online following. Read some tips to recognize scams and do research before investing in any cryptocurrencies. [Read more...](#)

#### [The Sixth Sense](#)

Manufacturing giant, Siemens, has launched the world's first intelligent transformer, the Sensformer. It is able to regulate voltage and currents uploading data to the cloud. The company also has plans to create an Internet of Energy, a two-flow energy network, using blockchain technology. [Read more...](#)



## [With Great Bitcoin Power Comes Great Energy Usage](#)

Why does something intangible like Bitcoin require so much energy and how does it get it? In short, more computing power requires more electricity. Bitcoin's massive energy usage consumes at least 2.55 gigawatts (GW) of global power, an amount close to the consumption the entire nation of Ireland uses each year, around 22 terawatt hours (TWh). Even more shocking might be the huge jump in power that bitcoin miners have gone up recently, five times the amount of energy consumed than just last year.

How it works: founded on blockchain, "miners" of bitcoin and other cryptocurrencies seek ways to solve an algorithm fitting a certain set of requirements; a server will find an acceptable solution, on average every 10 minutes, rewarding that miner with 12.5 bitcoins (about \$85,000) and ~\$1000 in transaction fees. This specific miner's solution and transactions are added to the blockchain ledger temporarily, but the new block doesn't become a certified part of the chain until more blocks are added; this is because solutions are sometimes found simultaneously by different miners. Every two weeks, the system automatically recalibrates 2016 blocks to ensure new coins aren't minted too quickly as the network's computing power increases. This requires miners to keep upgrading their own

systems in order to stay competitive. Because of the reset, “as long as there is money to be made, miners will consume more power.” [The Economist](#).

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## [Can Blockchain Be Used To Offset Carbon From Other Blockchains?](#)

That's what [Carbon Grid Protocol](#), owned by [New Era Energy](#), is trying to do. This is the first project out of Asia to be a part of the Climate Chain Coalition, a blockchain initiative supported by the United Nations Framework Convention on Climate Change. Part of the problem with blockchain technology is the high level of energy required to complete each transaction. New Era Energy plans to open up carbon credit markets by making them more transparent and accountable, while also removing the need for intermediaries, such as brokers or funds. The goal is to enable a “per-transaction offset mechanism,” which makes blockchain firms the perfect target – since each transaction is easy to track and tends to have a relatively high carbon footprint. A Carbon Grid Protocol using [Ethereum](#) will be out “very soon” according to CEO, Andy Tan. However, this is not the first or only company with the goal of using blockchain as a business for carbon credits, others include [Veridium Labs](#) and [Climatecoin](#). [GreenTechMedia](#).

## [Plug into Zug: Blockchain Voting Victory in Switzerland](#)

Blockchain technology is now increasingly being used to record votes, in addition to its high-profile routine practice in cryptocurrencies, such as Bitcoin. [Zug, Switzerland](#) is set on becoming a blockchain capital having just successfully completed a trial of blockchain-based voting.

An affluent municipality known for its low taxes, Zug is trying to brand itself as “Crypto Valley” opening itself to new technologies, offering support to the city's 15 financial technology (fintech) firms, allowing people to use bitcoin to pay for services, and diving deeper into the future of virtual currency.

Citizens in Zug voted on smartphones from June 25th to July 2nd in a consultative vote via Zug's new electronic ID system. The town's communications chief claimed the trial a “success” with participants saying voting was easy this way. The trial will now go through a technical analysis making sure the system allowed for auditing while preserving vote anonymity and preventing any tampering. Zug's trial comes after Nasdaq conducted an e-voting trial in Estonia and rumors that Sierra Leone tested blockchain tech during national elections. [Fortune](#).

## [Down Under Where The Deals Go Down](#)

IBM has just signed off on a five-year deal with the Australian government to

use blockchain and other technology to improve security for \$1 billion (\$740 M US). This deal will have IBM bring blockchain, automation, and AI technologies to the Aussie federal departments, such as the department of defence, bringing the country to “the top three of digital governments in the world” according to [Harriet Green](#), Chairman and CEO of IBM’s Asia Pacific. A big focus is placed on ensuring data security for citizens with Green hoping to push Australia towards a “paperless future” in many sectors. IBM is gradually expanding its participation in blockchain technology in various fields as its own blockchain platform just successfully powered the [first live major trading operation](#) involving 20 companies and 5 major banks last week. [Coin Telegraph](#).

## [Buyer Beware: ICOs Scams Hurting Blockchain Credibility](#)

Initial Coin Offerings, ICOs, are an unregulated form of crowdfunding used by blockchain companies. The crypto sector’s open and collaborative nature, and of the internet itself, makes it much easier for scammers to build fake ICOs by copying and pasting a company’s team profiles, white papers, branding, etc.

Most recently, [Turbulent](#), a Belgian micro-hydropower plant developer involved in the creation of renewable energy technologies, was victim to an ICO scam. Fans of the company and even the co-founder and chief innovator, [Geert Slachmuylders](#), were surprised to hear the news since its business has nothing to do with blockchain.

It turns out the ICO had its own website, Facebook page, and Twitter account all with information taken directly from Turbulent’s actual website. The fake ICO hoped to raise \$6 M but had collected just around \$1000 before it was officially taken offline. After hearing the news, Turbulent quickly filed a complaint with online safety agencies and warned potential investors online, luckily closing down the fake website within a day thanks to its significant social media following.

Slachmuylders theorizes the scam was a move created to take advantage of the buzz surrounding Turbulent after one of its videos had gone viral; he claims many people are not researching cryptocurrencies enough before investing in them, calling this common move “ridiculous,” and admiring the amount of work the scammer put into the ICO as “pretty impressive.”


As scammers are often in harder to prosecute in jurisdictions, such as Russia, all authorities can really do is raise awareness of the issue. The SEC has a few [red flags](#) to look out for on ICO sites including claims of guaranteed high returns, investing with a credit card, and assurances that the scheme complies with the SEC’s rules, among others. There are challenges in differentiating the real from fake but the take away is this: “just because a project uses blockchain, that doesn’t make it a surefire investment. If anything, you may need to work harder on due diligence with a blockchain company than you would with a traditional startup.” [Greentech Media](#).

## [The Sixth Sense](#)



On July 2nd, [Siemens](#), the largest industrial manufacturing company in Europe, launched the world’s first intelligent transformer, known as Sensformer. In addition to regulating voltage and current between power suppliers, the same function of basic transformers, Sensformer will be able to deliver additional data on the operating status of drives to the cloud, where applications can analyze their performance. For example, the device is equipped with sensors that measure oil temperature, oil level, and winding current on the low voltage side in real time. Siemens also announced their plan to create an Internet of

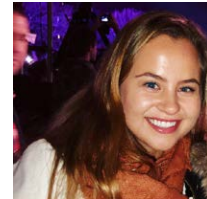
Energy (IoE), a decentralized, decarbonized two-flow energy network using blockchain technology. This IoE will change the single flow energy system, which runs from operator to consumer, to a double flow system that allows energy to be “traded back to the grid.” [BitcoinExchangeGuide](#), [Blok.t](#).

## Meet the PowerUp Blockchain Team:

**Editor** -  Carolyn Elefant, founder of [PowerUp Legal](#) and [Law Offices of Carolyn Elefant](#) is a seasoned energy regulatory attorney who practices at the intersection of regulation and innovation in the energy and legal tech sectors.



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