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How crypto is undermining the energy transition

As cryptocurrencies become more energy-intensive, power outages force governments around the globe to pull the plug on crypto mining

It would be an understatement to say that cryptocurrencies are a divisive issue. Their supporters cherish the potential of Bitcoin & co. to liberate the individual from the state's inflationary monetary policy by trading money on a market without government interference. While others see them as a way to circumvent undemocratic rulers clamping down on unwelcome transactions to political opponents, sceptics criticise crypto as just another form of financial speculation and a deep misunderstanding of how money works. After all, crypto is a highly oligarchic endeavour: the top 10,000 individual investors control approximately about one-third of Bitcoins in circulation.

However, there is a less philosophical and more mundane problem with crypto: the environmental damage as a result of crypto mining's sky-high electricity consumption. Crypto mining involves the verification of digital transactions in order to receive cryptocurrencies as a reward. To illustrate the scale of the problem, let's just look the staggering electricity consumption of the biggest cryptocurrency, Bitcoin: it is comparable to the power consumption of Thailand and has a carbon footprint similar to that of Kuwait. In addition, since it requires ever more state-of-the-art hardware, Bitcoin mining produces as much electronic waste annually as the Netherlands.

Ultimately, miners are therefore after one simple thing: cheap electricity. But as electricity prices can fluctuate over time, miners might move on to the next country once their activities have become too costly in one place. This makes mining a highly unpredictable endeavour – in particular for power grids and electricity providers. After China, where a third of global electricity is being produced, had banned all crypto mining in 2021, the country's miners flocked in huge numbers to other places – which, in turn, led to numerous overstrained grids.

Governments are pulling the plug

In the last months, one country after another made headlines when it came to the consequences of crypto mining. Soaring energy prices and power blackouts in Kosovo led to a government ban. In the Georgian province of Svaneti with its – in pre-Covid times – tourism-driven economy, residents had reportedly been made to pledge a holy oath not to mine cryptocurrency in order to deal with resulting energy shortages; even local bishop Anton Gulukhia had supposedly dabbled in mining using the electricity of his bishopric residence. Most of the region's electricity is being produced at the Enguri hydropower plant on the border with de-facto independent Abkhazia, which gives the story an extra-complicated geopolitical twist.

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After a massive blackout that also affected neighbouring Kyrgyzstan and Uzbekistan, Kazakhstan – a country where about 70 per cent of energy is produced with particularly dirty 'hard' coal and a preferred destination for miners that had to leave China – also temporarily banned all mining activities. Already in 2021, the country's leadership had been musing to build a nuclear power plant in order to cope with the excessive demand because of crypto.

Now Russia is all over the crypto news, in particular the Siberian region of Irkutsk. And while the Russian parliament is expected to push forward with wide-ranging legislation on crypto that is set to heavily regulate its use, tax traders, and police crypto exchanges and brokerages on crypto, the Russian Central Bank would prefer a China-style blanket ban – something crypto enthusiasts such as Russian-born Telegram founder Pavel Durov warned would amount to 'throwing the baby out with the bath water'.

Crypto puts the energy transition at risk

Environmentally-conscious crypto supporters would retort: why can't we have 'green' mining in less fossil fuel-dependent regions? But in fact, several Scandinavian countries intend to ban crypto mining despite their advances in the energy transition, as it sucks up too much of their renewable energy production – which is more urgently needed for essential services.

While some consider letting miners form arrangements with utilities for

them to shut down their activities in peak periods, industry expert Alex de Vries dismisses this on the base that crypto miners make the most money when they run their expensive machines 24/7. Ultimately, as de Vries explained in my recent interview with him, only internationally coordinated measures such as a carbon tax on transactions or a restriction of mining-based cryptocurrencies can solve the problem. With the first European countries now putting an EU-wide mining ban on the table, the momentum for a transnational approach might be getting closer.

Against the backdrop of the current energy crisis in Europe, it seems difficult to justify the immense electricity use of something that, as of today, does not provide any real value to the economy and first and foremost serves as a speculative asset. Moreover, crypto mining could jeopardise countries' fossil phase-out goals and thus put the clean energy transition at risk. While our world may progressively become more and more digitalised, the fact is that real-life scarcities will not magically disappear.



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